The magazine for AUSTRALIAN Amateurs

October 2002
Volume 70 No 10

# Amateur Radio

$ 5.95

## Winner!

### 2001 Amateur Radio Technical Award

**Dr Wally Howse VK6KZ**
wins with his article
*"VHF, UHF and microwave propagation and The Great Australian Bight"*
— *AR* March 2001

**A Simple HF Signal Source**
Drew Diamond VK3XU

**The QRP (Quite Reasonably Priced) Keyer**

**Zener Diodes:** still useful

**Low Loss Current Mode Balun** for 1.8 –30 MHz

**Q** What does a *Centurion tank*, *Seacat destroyer*, searching for the origins of the universe, and the *human larynx* have in common?

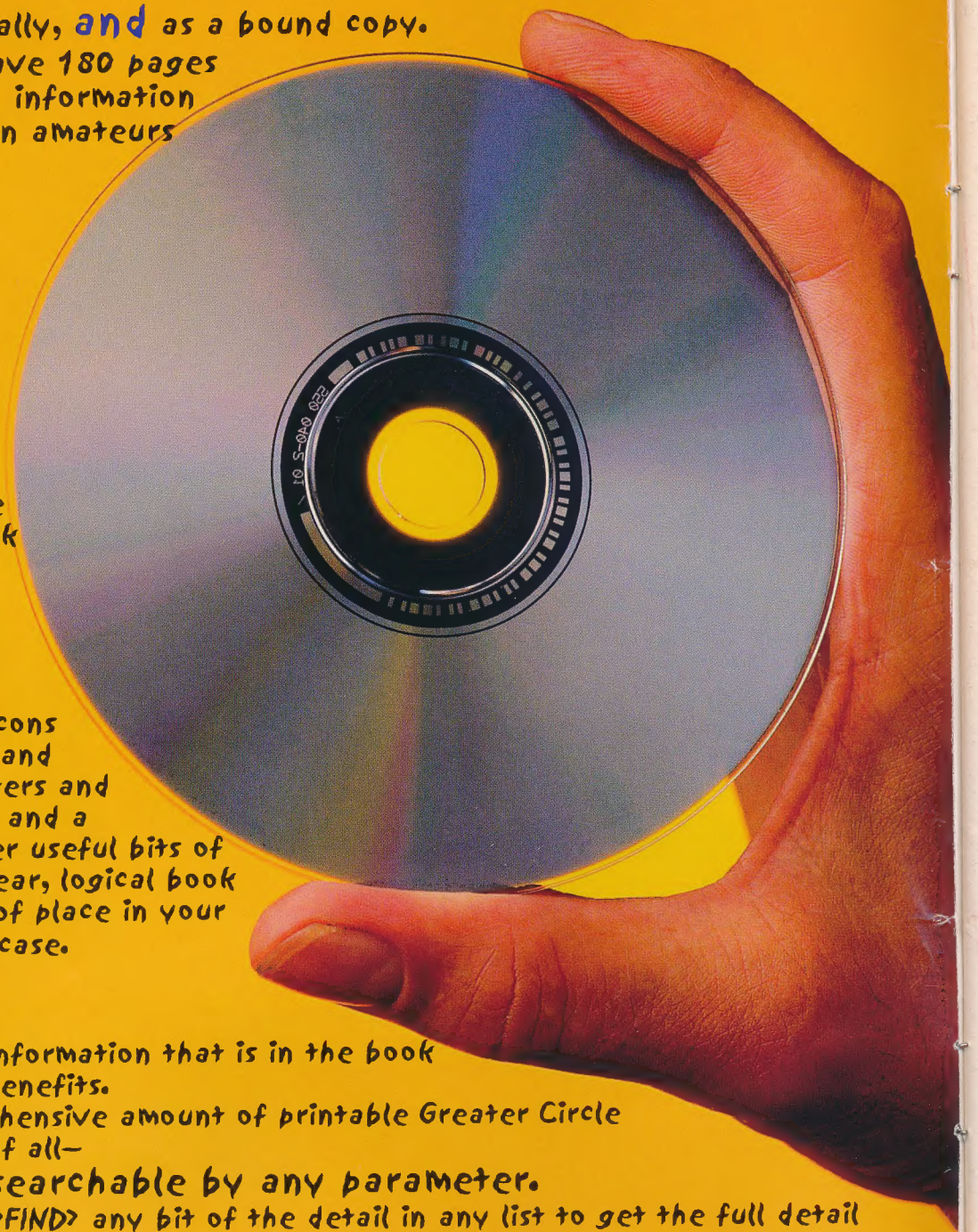
**A** *They were all part of a unique mix of presentations given at* **GippsTech2002**

ISSN 0002-6859

# Callbook 2003 We're different this time!

We are doing it digitally, **and** as a bound copy.
Callbook 2003 will have 180 pages containing all of the information required by Australian amateurs close to hand.

And as a special bonus we will be offering extra information on the disc!



## The Book

The bound book will be the full edition callbook with all of the VK callsigns listed in a cleaned-up and easy read form. Also in the book will be pages of information about beacons and packets and rules and regulations and repeaters and frequencies and bands and a thousand and one other useful bits of information. All in a clear, logical book that could take pride of place in your shack or on your bookcase.

## The Disc

This will have all the information that is in the book and two great extra benefits.
It will carry a comprehensive amount of printable Greater Circle information and best of all–

**It's searchable by any parameter.**

Which means you can >FIND> any bit of the detail in any list to get the full detail of what you want to know.
For instance, Do you want to check which amateurs live near you? Easy, ask the program to >FIND> your postcode or the ones around you.
Its also a lot cheaper and more convenient than constantly dialling up the internet, and the callsign information is presented much more conveniently.
We also intend to offer the disc at a lesser price than the book and also offer a special deal on buying the book and the disc as a set.

Look for full details in November's Amateur Radio

# Amateur Radio

*The Journal of the Wireless Institute of Australia*

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**Our cover this month**


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### Contributions to Amateur Radio

Amateur Radio is a forum for WIA members' amateur radio experiments, experiences opinions and news. Manuscripts with drawings and or photos are always welcome and will be considered for publication. Articles on disc or email are especially welcome. The WIA cannot be responsible for loss or damage to any material. A pamphlet, How to write for Amateur Radio is available from the Federal Office on receipt of a stamped self-addressed envelope.

### Back Issues

Back issues are available directly from the WIA Federal Office (until stocks are exhausted), at $4.00 each (including postage within Australia) to members.

### Photostat copies

When back issues are no longer available, photocopies of articles are available to members at $2.50 each (plus an additional $2 for each additional issue in which the article appears).

### Disclaimer

The opinions expressed in this publication do not necessarily reflect the official view of the WIA and the WIA cannot be held responsible for incorrect information published.

## Amateur Radio Service

A radiocommunication service for the purpose of self-training, intercommunication and technical investigation carried out by amateurs; that is, by duly authorised persons interested in radio technique solely with a personal aim and without pecuniary interest.

# Wireless Institute of Australia

The world's first and oldest
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Founded 1910

**Representing**
**The Australian Amateur Radio Service**

**Member of the**
**International Amateur Radio Union**

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# Editorial Comment

Colwyn Low VK5UE

## What is Amateur radio today?

I think this is no longer a simple question. There are some things those of us who are over 50 think should be included in any list. Radio waves and communication. Those of us in this group may think that the amateur radio activity has to be radio waves from beginning to end. If we feel we should only stick with the essence of amateur radio maybe we are painting ourselves into a corner with spark transmitters, coherer detectors and morse code. If we agree that we should move with the time and the technology that develops then amateur radio is no longer just radio waves in the air. It is a lot of other means of communication as well. To day we use Internet to arrange skeds to learn about Dxpeditions and be informed of special propagation opportunities for microwave communications. We could do it years ago with snail mail and telephones.

## What makes using the Internet, computers and satelites not amateur radio?

These questions need to be discussed as we move to new licencing conditions. What are the important things to know about communications using all things electronic? Is it more important to know in great detail how our transceiver does function inside or how to use it properly to establish communication and not cause interference? If we start people at the know how to do it stage, we can teach them the greater detail later.

Amateur radio has always been radio waves plus something. Today's something is so large most of us only fully comprehend part of it. As long as we have a good working knowledge of the equipment we use and the modes it works with, we should be accepted as amateurs. Just because we do not use a mode or particular part of the spectrum does not make us any less an amateur. I keep thinking the next few months are when I will get into digital modes, but I do not. My current excuse is that things are changing so quickly I will wait until one standard is supreme. This of course means I will never start. What I really have to do is get a sound card in the packet computer and take it to the shack with the trusty FT101 and actually work PSK31 or what ever. Maybe if I get a month off over Christmas I WILL DO IT.

The September issue got very late from a whole lot of sequential small delays. Hopefully this issue is much earlier and we can keep to a better schedule. The main requirement is that all columns, advertisements and OTU letters are with me by 10th preceding month.

We hope to produce a 64 page issue in December and then a January - February issue in late January. Producing this magazine over Christmas is just about impossible.

There have been several discussions within the Publications Committee about the quality of the magazine with regard to cover photograph definition, the quality of the inside paper and how the printed material looks. At present we are producing the magazine for a minimal cost per copy distributed. Any change would put a significant cost increase in the delivered cost. As we already have members not receiving AR because of cost and members complaining about the WIA subscription and what they get for it. I wonder if it is prudent to chase an upgrade in the look of AR if it only comes with an increased price tag and no other changes.

ar

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# WIA Comment

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## The Foundation Licence and the future of Amateur Radio

Since last months notes a large amount of my time has been devoted to thinking about the future of amateur radio. Two things have been in my thoughts during this time. The first is that in these times of budgetary constraint many organisations are looking carefully at how they conduct their business. We already know that the ACA is being forced to examine their operations in order to focus on delivering key Government initiatives. As a result many aspects of their business is being devolved to deregulated markets and what remains is being stream lined to seek efficiency gains. Second is an observation that today's workplace seems to demand more and more from us with the result that many of us no longer seem to have the time to devote to hobbies and other community activities. In this sort of environment what is the future role of amateur radio in today's society. What do we want from amateur radio in the future?

## Convergence

We increasingly see the convergence of radio and IT. In fact Government now lumps the two together under the heading of the Information and Communications Technology (ICT) banner. On a day-to-day basis we see the impact of this convergence on amateur radio. Already Internet linking is commonplace, most of the radios that we buy today can be described as coming under the heading of "Software Defined Radio (SDR) where it is the computer programs that determine the characteristics of the radio more so that the electronics within it. Throughout Australia many community groups are using the Industrial and Scientific allocations of frequencies in the 2.4 GHz band to experiment with linking together computers using Wireless LANs. Many of this new wave of experimenters know lots about computers but little about radio. We should be encouraging them to join our hobby and share in the enjoyment and challenges that are on offer. Radio is changing and we as amateurs need to change in order to attract new entrants into the hobby.

## Overseas activities

The activities of the Radio Society of Great Britain (RSGB) and the UK Radio Communications Authority (RA) in developing and promoting the adoption of an entry level or Foundation licence have already been widely publicised. After the initial flurry of activities that these new licences created their real importance is beginning to emerge. It will however be a while before the full impact of the licence on the future of amateur radio is fully known. However the important lesson that I believe we need to learn here in Australia is that we need to change and adapt to a changing environment. It is no good resting on our laurels and assuming that the next generation of amateurs will simply "appear out of the wood work".

If we accept that changes to the current amateur licence are required in order to attract the next generation of amateurs then the first question we need to ask is what form would such a licence take. "Ah ha" I hear you say that's what the Novice licence is for. Whilst I'm sure that that was the intention at the time that it was introduced there is today much evidence that the current Novice licence has failed at attracting new entrants to the hobby of amateur radio.

## The form of an Australian Entry Level licence

Many of you will make the observation that you have worked extremely hard to obtain your licence. I can only agree with this but note that today's examination is a far cry from the examinations run before 1980 when the theory examination was about being able to recreate and analyse complex valve circuits. So things have already changed, and we can be certain that they will continue to change. The question I would ask is can we afford not to make amateur radio accessible to a new generation of builders and operators.

If we accept that we need to adapt and lobby the ACA to adopt a new licence aimed at attracting new entrants into the hobby then the next question to ask is what form should it take. There are of course many approaches to this including:

1. Remain with the current licence arrangements but change the entry and examination requirements.
2. Introduce a new licence category aimed at the next generation of amateurs with privileges and entry requirements in line with modem education and technology practices

I would encourage all of you to review the UK Foundation licence, speak to potential amateurs of the future and form your own opinions.

## Conclusion

I personally believe that the amateur radio community needs to accept the need for change and embrace the adoption of a new amateur radio licence. In order for this to happen there are two things that I would ask from you. The first is to think about what it is that you believe would make an entry level licence attractive to newcomers as well as acceptable to you. Secondly I would ask that you take the time to tell the WIA about your thoughts on this important issue. This means telling you local WIA Divisional representatives, and writing directly to me. If we can get the future licensing and entry requirements right then amateur radio has a very bright future in Australia. If we don't then the membership and licensing statistics already tell us clearly that within a generation amateur radio will be a thing of the past. So please take the time to think about this matter and please, please tell us about your conclusions.

So with this call to action I will say goodbye for this months notes and wish you all well until next month.

**73s de Ernest Hocking VK1LK**

**ar**

# A Simple HF Signal Source

**Drew Diamond, VK3XU**
45 Gatters Rd.,
Wonga Park, 3115.

**A signal generator is one of the most useful tools in receiver tests, and finds application in a wide range of tasks. Since the greater portion of QRP and experimental work apparently occurs on the popular "harmonic" bands of 3.5, 7, 14, 21 and 28 MHz, it was decided to make a handy little signal source to cover these frequencies.**

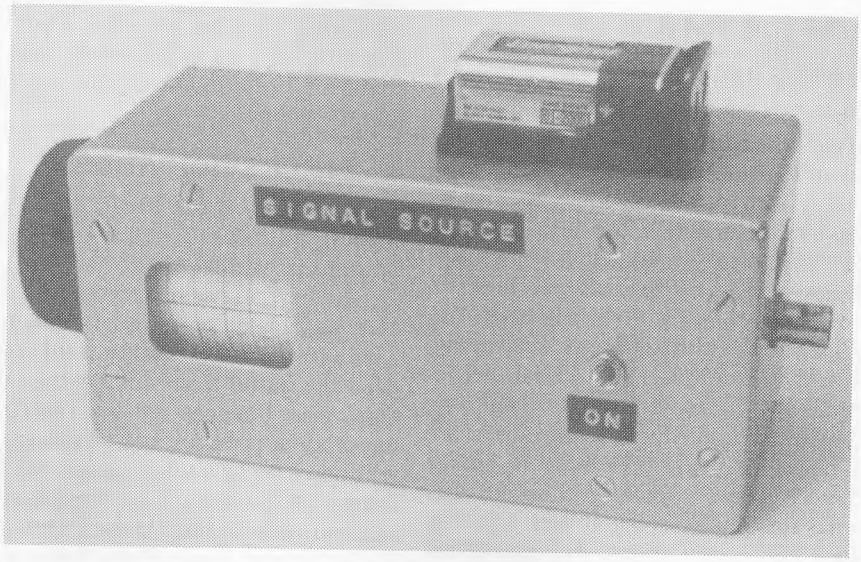



Photo 1. Simple Signal Source

## Circuit

Fortuitously, an ordinary, cheap 3.58 MHz ceramic resonator may be powered by an MPF 102 FET in a variable crystal oscillator (VXO) circuit to provide a stable signal which is adjustable from about 3.5 to 3.6 MHz (Fig. 1). The oscillator signal is fed to one gate of a 74HC04 hex-inverter chip, biased with a 100 k resistor for linear operation, then buffered by the second inverter, whose output is applied to the remaining four gates, all wired in parallel to form the output amplifier. The 100 nF coupling capacitor and two 100 ohm resistors effectively configure the generator's output impedance to about 50 ohm. The 1 V peak-peak square wave thus obtained is rich in harmonics, right up through 28 MHz.

To obtain an 'equivalent' microvolt or sub-microvolt level for receiver sensitivity tests, our square-wave signal must be passed through an appropriate attenuator, typically about 70 to 100 dB. An attenuator similar to that described in Ref. 1 or 2 is suggested as an essential aid to small-signal work.

## Construction

For coax connected microvolt tests, the oscillator must be housed in an RF-tight metal box. Aluminium or continuously soldered double-sided printed board is suggested. The homemade box of the prototype, pictured in Photo 1, measures 150 x 75 x 65 mm WHD, but any metal box of similar dimensions would do.

A suggested 'paddyboard' (Ref. 3) circuit board layout is shown in Photo 2, and Fig. 2. The 74HC04 chip is fitted into a 14-pin DIL IC socket, which in turn is soldered- using tinned copper wires of about 0.6 mm, upon a segmented substrate measuring 25 x 30 mm. However any preferred wiring method- including 'ugly' style should work satisfactorily, provided that component leads are made reasonably short.

The variable capacitor may be a physically small 300 (95 plus 205) or 450 pF part. To prevent signal leakage, the capacitor's shaft should not protrude from the box, so some kind of internal dial is recommended. My drum dial consists of a rectangle of thin aluminium sheet fixed with c'sunk wood-screws upon a cylinder of wood (e.g. chipboard) made with a hole-saw (visible in Photo 4). The 0.25" hole produced by the pilot drill of the 'saw is a good friction fit onto the variable capacitor shaft. A 0.25" plastic extension (#3 knitting needle) is fitted into the other end of the cylinder for attachment of a suitable knob. The dial assembly should be white undercoated to receive suitable calibrations.

The stability of the ceramic resonator may be significantly improved by increasing its thermal mass. One method

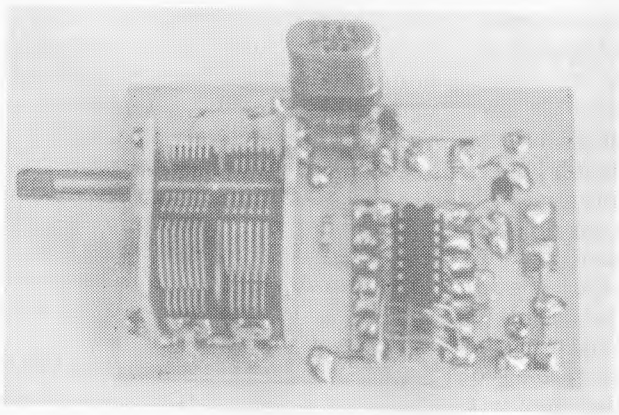


Photo 2. Circuit Board

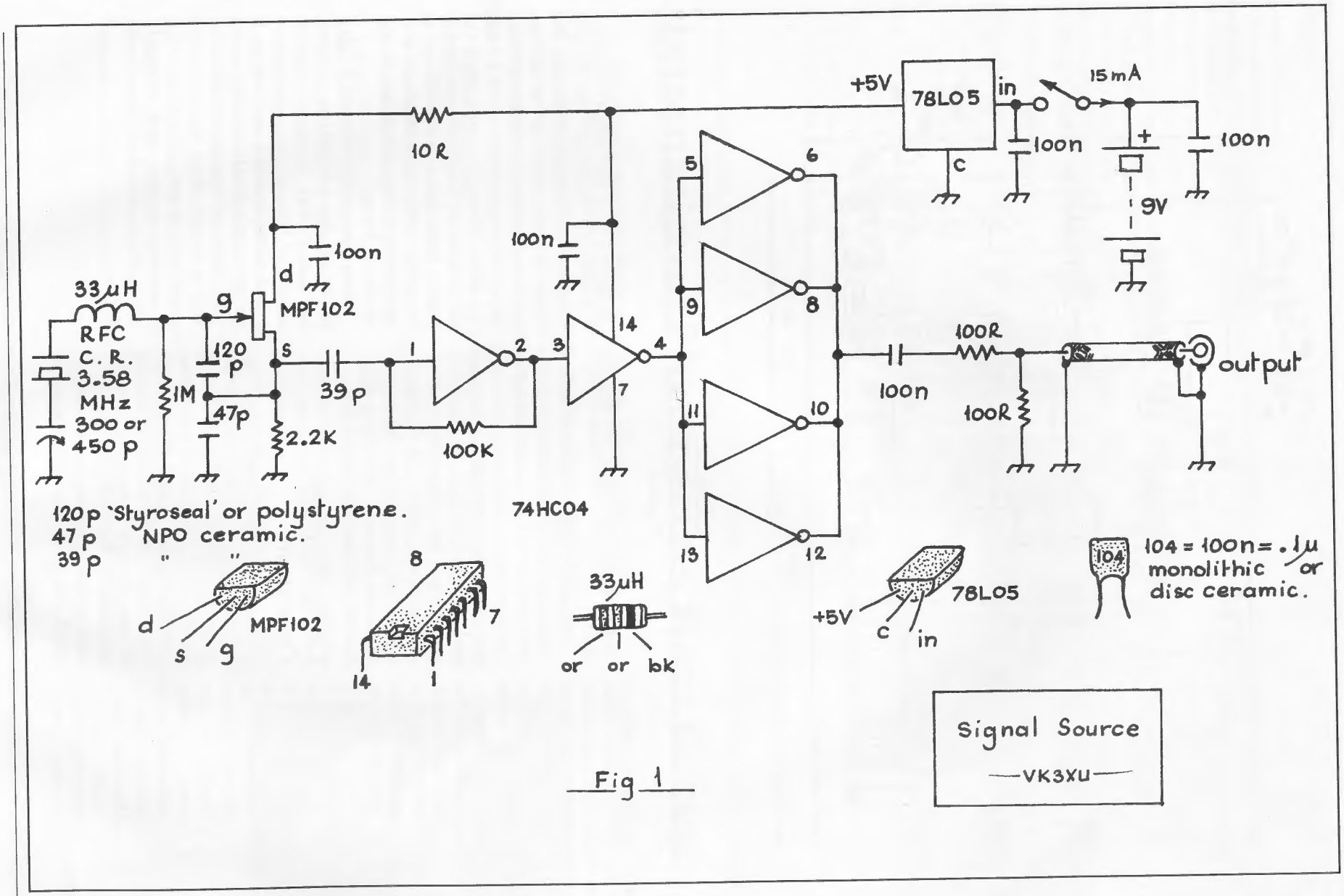



Fig 1

Figure 1

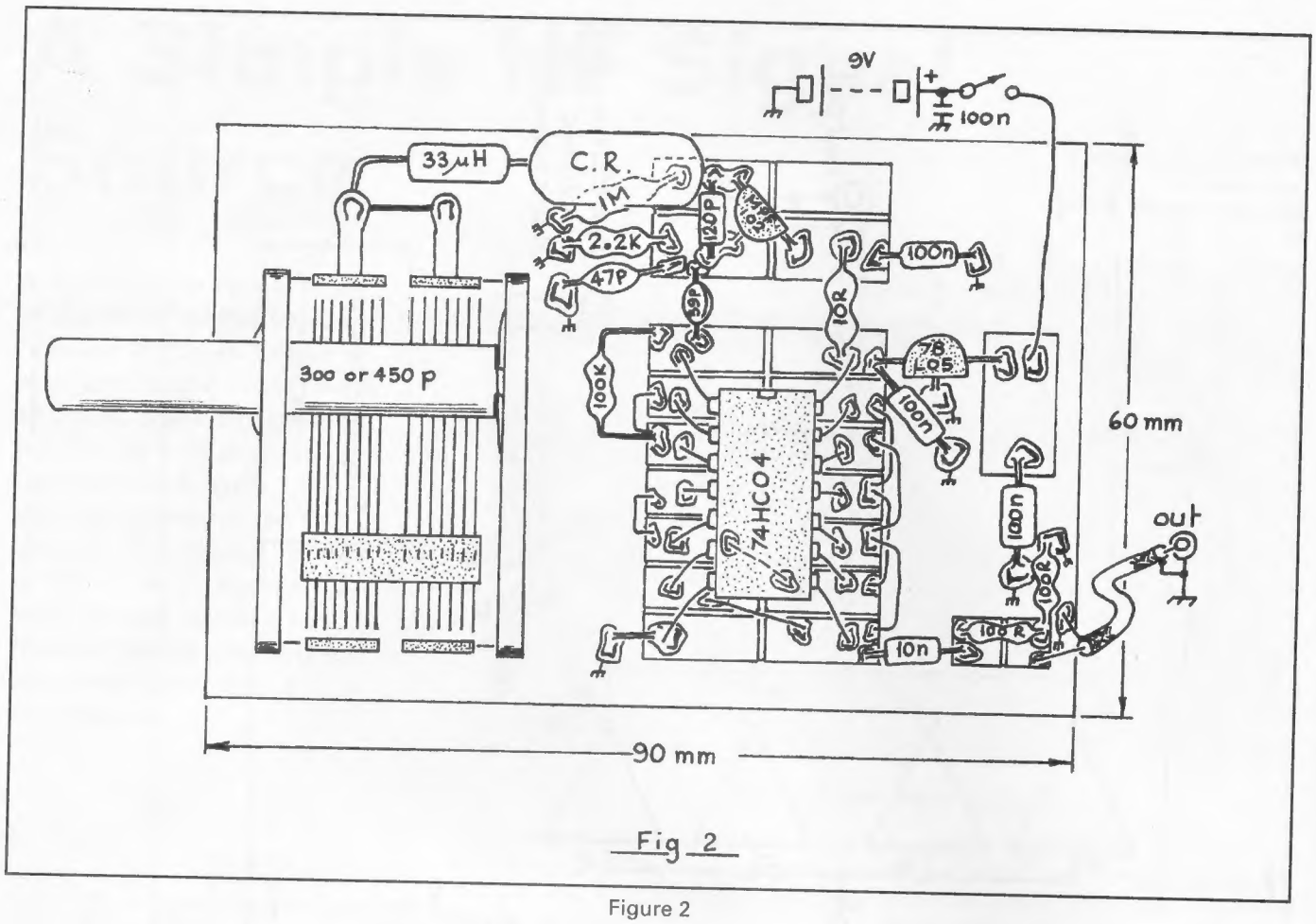



Figure 2

is to enclose the device inside a style 'D' crystal case. Using long-nose pliers, grip a defunct/unwanted crystal by its pins, and grip the case top with a second pair of pliers. Heat the case in a gas flame. After a few seconds, the solder will melt, allowing the top of the case to be separated from the base. Remove the fine wires which attach to the quartz plate, then, using new fine tinned wires (about 0.6 mm) attach the ceramic resonator, as depicted in Photo 3. Fill the inside of the case with petroleum jelly, then re-attach the case top. Some grease may ooze out of the join during soldering, but it does not interfere with the job.

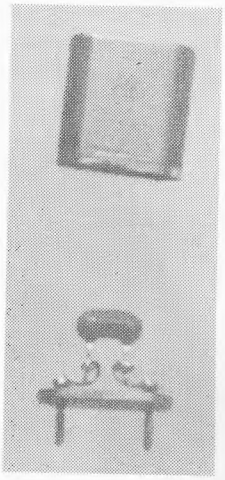


Photo 3. Modified crystal

Depending upon preference, the 9 V 'transistor' battery may be fitted internal or external to the box. An external holder has been fitted for the prototype, which does not measurably increase signal leakage provided that the positive battery tag of the holder is by-passed to chassis ground with a 100 nF ceramic or monolithic capacitor, and the negative tag is also grounded right there where the tags poke through the box wall.

## Calibration and Operation

Before switch on, check again the accuracy of your wiring, and that the 74HC04, 78L05 and FET are installed correctly. If an oscilloscope is available, connect the signal source to the 'scope input using a 50 ohm cable. A suitable 50 ohm through termination must be connected to the 'scope input to get a good picture of the output wave-shape, which should be a fair square-wave of about 1 V p-p. No 'scope? Apply a screwdriver blade to the output connector (to act as small radiator) and listen for the signal on the station receiver. You should be able to vary the signal frequency between about 3.5 and 3.6 MHz. When all is well, with the means available to you, calibrate the dial scale; a single line cal point serves (for example) 3.500-7.000-14.000-21.000-28.000, then 3.510-7.020-14.040-21.060-28.080, and so on.

When performing weak/small signal receiver tests, a 10 dB/step 100 dB attenuator (Refs. 1 and 2) must be interposed between the signal source and receiver input in a 'coax' set-up. If you can plainly hear the 3.5 MHz signal with -100 dB in line, and -70 dB on the higher bands, then the receiver's sensitivity is well down into the microvolt region, and probably sufficiently sensitive for all normal radio work.

## Parts

Most of the components are available from our familiar electronics suppliers, including Altronics, DSE and Jaycar. Additionally, 3.58 MHz ceramic resonators may be purchased from Electronic World (03 9723 3860), or from suppliers to the TV service trade. I have a few spares, so if you have trouble purchasing one, please drop me a line at the address shown above. The 33 uH R.F.C. is a Jaycar P/N LF-1528.

## References and Further Reading


1. *A Step Attenuator for Receiver Sensitivity Measurements*; Diamond, AR, Aug. '99.
2. *Test Equipment for the Radio Amateur*; C. Smith, G4FZH (Ed.); RSGB, p109.
3. *"Paddyboard" Circuit Construction*; Diamond, AR, Feb. '95.


**ar**

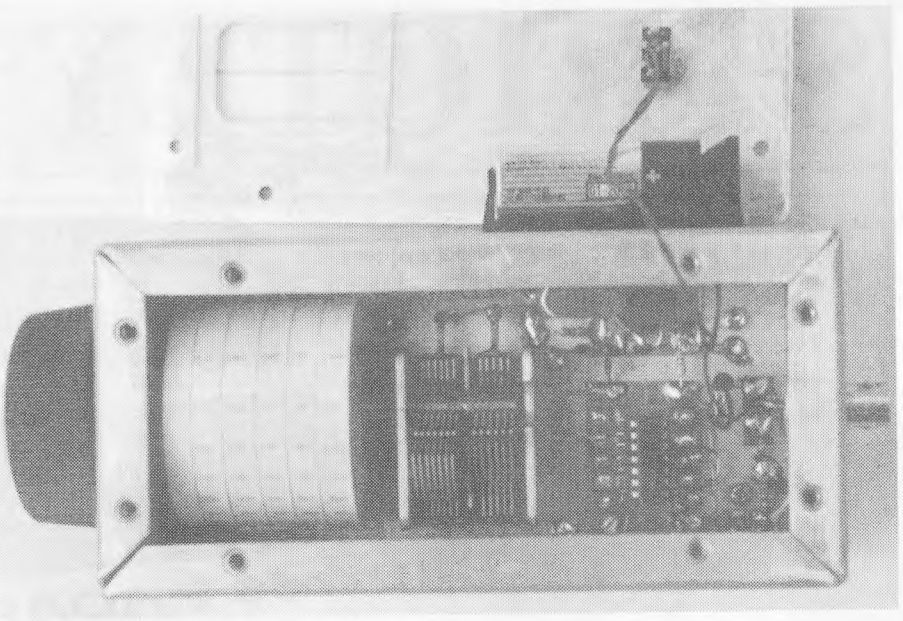
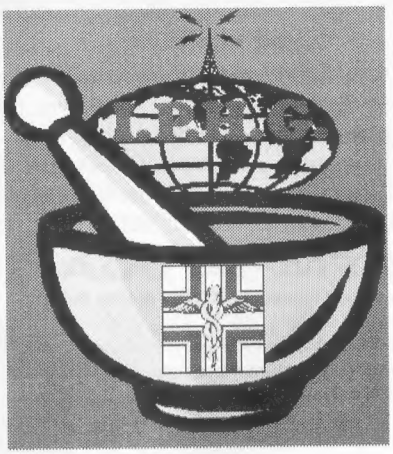


Photo 4. Internal view

# International Pharmacists Ham Group

**http://www.malpensa.it/iphg/index.htm**

**On March 18th, 2002 the I.P.H.G. was constituted to unite HAM Pharmacists, to promote radio-initiatives, to establish friendship and to help the people who need any possible aid the Group can provide. The Group is apolitical and does not recognize any difference of race or religion among its members.**




## Membership

The Membership is free and open to all those that are both Pharmacists and Radioamateurs over the world.

## I.P.H.G. Story

The I.P.H.G. results from an idea of Andrea Pagliula, IZ7ECB and Pier Luigi Anzini, IK2UVR. Andrea, in early days of March 2002, made a search on internet inserting the key-word "Pharmacist". The search gave him many call-signs of OMs Pharmacists. Andrea sent them all an email with the intention of establishing a Web Site on which to list all HAM Pharmacists over the world. He got many e-mails in return. After some trials, the Web Site was built, with a proper logo, a forum, and a page for each member. Recently the Site has moved on a new and stronger server. The original members were about 20, and many other still are joining the Group, from all the continents.

We would like to inform your members about I.P.H.G. by an article on your journal and by your links.

**73 de Andrea Pagliula IZ7ECB,**
IPHG # 001, Supervisor
International Pharmacists Ham Group

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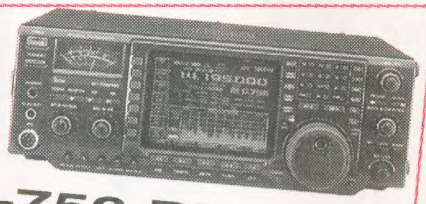

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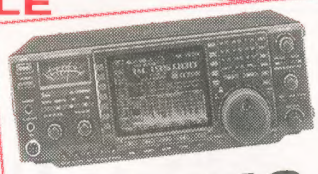

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# Low Loss Current Mode Balun For 1.8 –30 MHz

By Peter Woodland VK3ZPW

**This balun/choke design will give an impedance step up ratio of four times (1 : 4). Great for feeding a ladder line to an all band antenna like a G5RV or similar.**

This design is a modified version of the Guanella current mode balun that has recently been made so popular.

It will cover the whole of HF with very little loss (below my measurement capabilities) or core heating for power levels up to around 500 watts.

Parts required are 4 high permeability manganese zinc ferrite "E" cores, 2 x 300mm lengths of 92 ohm coaxial cable, (lan cable) and some 5 minute epoxy.

Ferrites used are Neosid type F5, initial permeability (ui) 1600 and a saturation flux density (Bsat) of 470 milli Tesla (mT). Part number 32-110-25.

Any high permeability ferrite cores will work but there may be some trade off in certain areas of performance. Example- a pair of cores should have an effective magnetic path length of 97mm and an effective volume of 17600$^3$mm. to give a 500 watt rating.

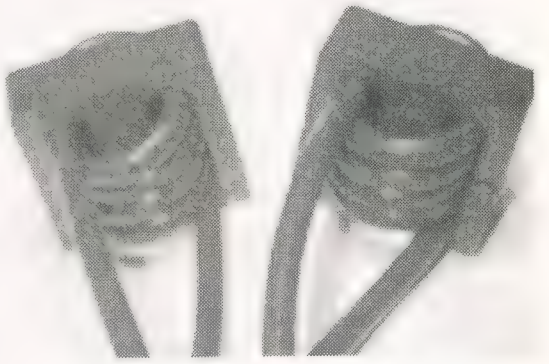
## Putting it together

Glue the two halves of the E cores together and press together firmly so that most of the glue is squeezed out of the join. Let the glue dry.

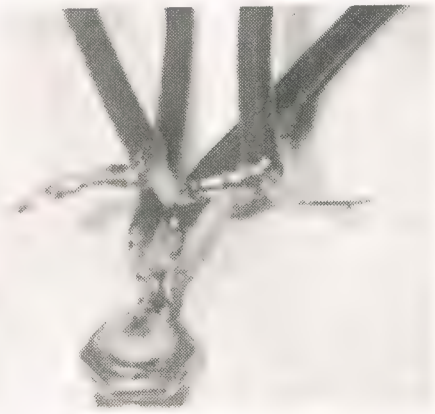
Wind 5 turns of the coaxial cable though the core windows, and leave equal amounts of cable coming out. Do this on both sets of cores, strip the ends and solder as per the diagram. The link is only used to force a balance in respect to ground but is normally not needed.

Ralph VK1BRH supplied the schematic diagram.

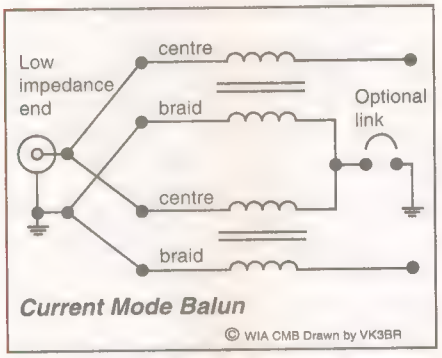
For more information go to the web site of Ralph Holland VK1BRH. http://www.arising.com.au/people/Holland/Ralph/CMBalun.htm



Coax cable windings

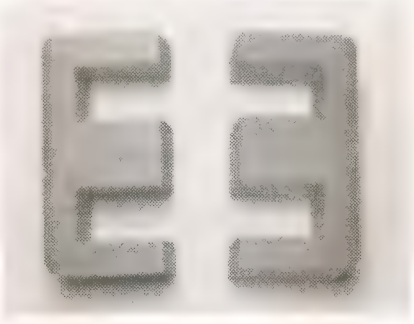


Input and output wiring




Schematic of the current mode balun

**or**



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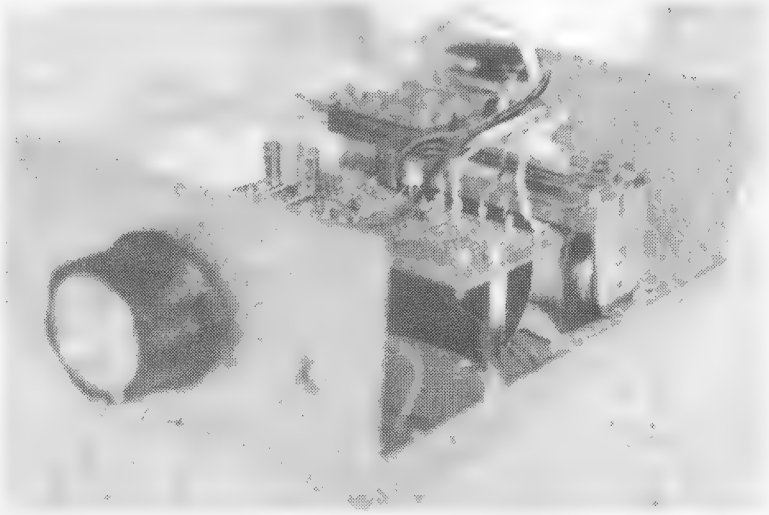
# The QRP Keyer (Quite Reasonably Priced)

Keith Sherlock, VK2WO. QTHR



**The 3000 type relay could justifiably be regarded as having been the backbone of most telecommunication facilities used during the period immediately following World War Two. Designed, I believe, by British Post Office engineers it was adapted to provide a multitude of functions. If there has not been a book written about it, then there should have been!**

In Australia, STC, for example, must have produced the relays by the thousands, along with ancillary equipment. The keyer described requires a 12 volt 3000 type, or equivalent relay, with at least one changeover contact set. It is also desirable that the relay armature be fitted with a bronze stud. The stud prevents ferrous-to-ferrous contact between armature and pole face in order to overcome "hang on".

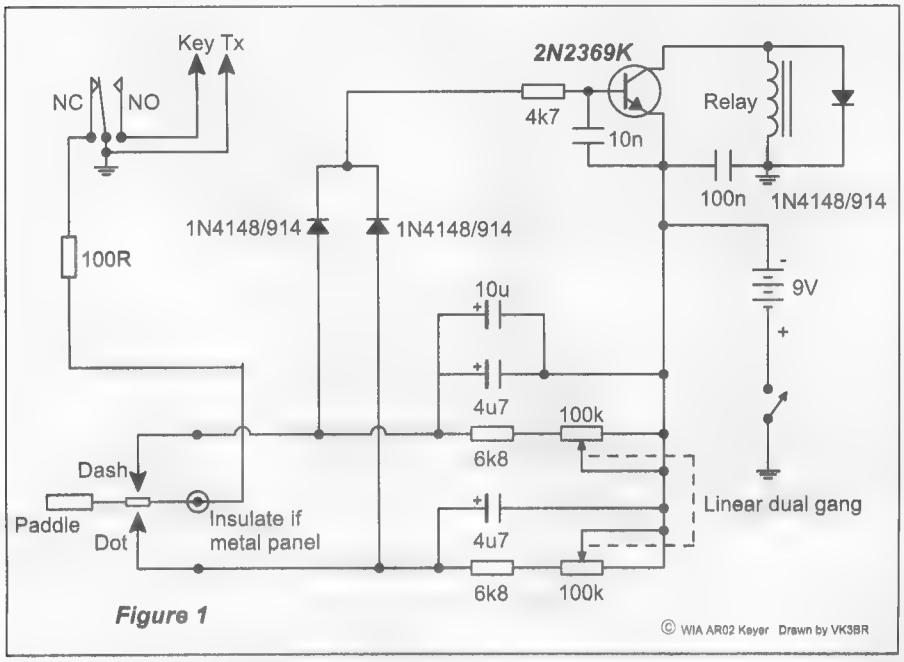



Figure 1

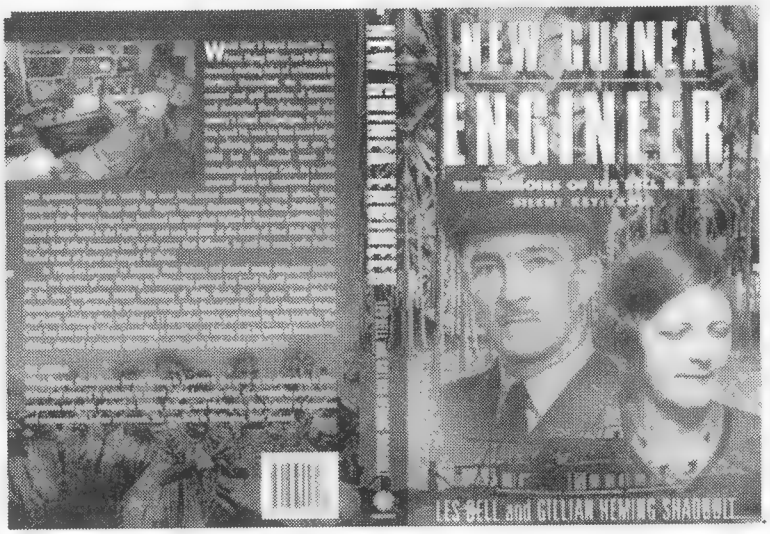
The circuit makes no provision for timing those dot-length periods between elements of the morse letters. These are provided, however, by the dynamics of the relay. Without modification, modern miniature relays are quite unsuitable. Ideally, a 3000 type relay with a balanced pair of changeover contacts would be used. The operation is quite simple, but for those unfamiliar with such relay operation, the function is briefly as follows: With the paddle pushed, say to the dot contact, the 4.7µF capacitor charges within milliseconds. This now provides base current to the transistor, which operates the relay to close the keying circuit. At the same time the charging voltage is removed from the capacitor by the opening contact. However, the charged capacitor holds the relay in operation until such time as the discharge through the R network across the capacitor is sufficiently reduced. The relay then reverts to normality and the process begins again. So a series of dots continues as long as the paddle is held to the dot contact. The dashes are similarly formed. 3:1 dash-to-dot ratio may be adjusted to individual requirements by altering the capacitance values to suit. Modern

# New Guinea Engineer

## The Memoirs of Les Bell M.B.E.

Gillian Heming Shadbolt

**Wartime WW II Royal Australian Air Force Flying Officer Les Bell MBE recounts startling tales of settlement in Northern Queensland, the equatorial coconut and gold empires of German and Austalian New Guinea, and the country's island archipelagos.**




In 1914 Les, aged 10, won his first Scout badge for collecting sugar bags for use in WWl but he valued most his introduction to Morse Code. As a radio amateur (ham) Les maintained contact with operators around the world. He won ham contest certificates, among others, from Stampede City, China, Japan and the Napier Women Operators Club in New Zealand. The American Radio Relay League Inc. honoured him with their highest A1 Operator Certificate. Les served in radar units in the Pacific war and won his MBE at the Battle of New Britain. In the war had killed Japanese but, in the peace that followed, he and his canny wife Bertha booked a tour of Japan and stayed 18 weeks.

In 1945 Les returned to Kavieng and cleared away daisycutter bombs among the detritus of war. Retiring to Whitsunday Passage Les found himself among settlers of the now burgeoning tourist sun-mecca of Airlie Beach. As the new Scout District Commisioner, he officiated in welcomes to the then Queensland Head Scout Governor Henry Abel Smith, and Lady May.

Les died on December 11, 2000—just before his 96 th birthday. The Coral Sea ham net he'd been controlling a month or so before, and its quota of international visitors, observed a minute's silence the morning after Les became a silent key.

### The Author

Gillian Heming Shadbolt was born in Sydney in April, 1929. She grew up on plantations in New Guinea and returned to Australia as a refugee. She worked on newspapers, magazines and public relations in London, Sydney, and Wellington, then lectured in journalism and communication before retirement.

AR

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### The QRP Keyer (continued)

electrolytic capacitors, with their remarkable capacitance values for so small a component, have leakages that equate to a few tens of thousands of ohms; so low-leakage types are desirable and have been found to meet requirements quite satisfactorily. A 100 ohm resistor is provided in consideration of both paddle and relay contacts. The 6.8 kohm resistors account for the highest operating speed and may be varied somewhat in order to set that speed. Reducing the resistor values increases the speed.

The transistor used is the 2N2369A that is very much akin to the 2N2222A. Obviously there are many NPN types which would suit.

The circuit is essentially a monostable multivibrator with the "key up" condition as the stable state. With values shown, the keying speed ranges from about 12 to over 30 wpm.

The slow speed, however, is determined to a great extent by the electrolytic capacitor leakage.

The keyer allows the sending of eminently readable CW and indeed is almost "as good as a bought one". It has a very desirable feature in that it is, compared with some purely electronic models, quite easy to use. That is, of course, due to the relatively gentle on/off functions of the relay.

The reverse diode across the relay winding takes care of the back e.m.f. and aids smooth relay operation.

This is an interesting home brew project for those who enjoy the "Gentlemen's mode" and is quite suitable for QRP portable operation.

AR

# GippsTech2002
## –radio amateur education PLUS+

By Jim Linton VK3PC

**What does a Centurion tank, Seacat destroyer, searching for the origins of the universe, and the human larynx have in common?**

***Answer*: They were all part of a unique mix of presentations given at GippsTech 2002.**

This annual conference organised by the WIA Eastern Zone Amateur Radio Club (1) in Victoria has had its 5th and most successful conference in July.

A total of 106 (up from 57 in 2001) attended, 86 of these radio amateurs and experimenters, with 20 partners who sojourned through the Gippsland region under the guidance of Pauline Corrigan (partner of Tom Corrigan VK3XBG).

The Partners' Program is credited with making it possible for many Hams to attend, and it also appears that enthusiastic spouses, having attended once, want to repeat the experience resulting in "must attend" directives being issued in their households.

## How it all began

Chairman of the organising committee, Peter Freeman VK3KAI backed up by a dedicated group of supporters has established a technical conference that primarily concerns weak-signal techniques, VHF, UHF and Microwave operation.

Peter VK3KAI explains that while WIA EZARC (formerly the WIA Victoria Eastern Zone established in 1938) held traditional hamfests over many years, these were of mixed success.

About five years ago when the club committee was considering whether to hold another hamfest, he and Ralph Edgar VK3WRE suggested a technical conference, and GippsTech was born.

Being an observer of similar events in the United States through their printed proceedings, and aware of a couple of technical gatherings in VK1 in the past, Peter VK3KAI had been thinking about the possibility of a local event for several years.

GippsTech itself has played a key role in promoting VHF, UHF and Microwave activity, helped to educate on weak signal techniques, been an avenue for the sharing of information, and is here to stay hopefully for many years to come.

Among those attending were the leaders in their field of activity rubbing shoulders with those wanting to learn more, and a few who found parts of the event at the Churchill Campus of Monash University "too technical" or "too basic" – but you can't completely please everyone.

At the end of the conference all left feeling inspired. It was also an excellent eye-ball networking occasion, and the Saturday night annual dinner at Café Gaztromony in Morwell was packed.

The main part of GippsTech is conducted in a university lecture theatre and in all 16 presentations were made over the two days. In a separate room there were displays and a little trading activity in bits and pieces related to the conference theme.

A number of those giving technical presentations were later in the display room answering questions and showing off their hardware.

# The 2002 Conference Program

The purpose of this article is not to cover all the presentations in detail. That is the role of the published proceedings (2).

The first speaker was Doug McArthur VK3UM whose topic was *RF Radiation: Does your station meet the new licensing assessment requirements? Obtaining a High Power permit.*

Despite his topic being nobbled somewhat by the unexpected late postponement by the Australian Communications Authority of introducing EMR controls that were to have begun on 1 July 2002, Doug gave a very informative presentation.

He has been involved in EMR since 1988 as an occupational health and safety requirement. Doug's view is that EMR is being misunderstood by some in the amateur radio fraternity.

Doug said, "A lot of myths can be heard on air. For 99% of us we won't have to do a thing. The rest of us will have do a few things."

He acknowledged that the WIA, in its liaison with the ACA, had done a tremendous job but in his view the ACA's released (now withdrawn) compliance requirements for EMR are flawed.

Doug described the compliance regime as being like an "RF speeding ticket", which suggests that while the simple approach of EMR meets the needs of 99% of amateur radio installations, more work is needed on the remaining 1% where compliance may not be so clear cut.

He provided an insight into the high power permit for a 10-metre dish on his country property that is used for celestial communications. Later in a pictorial presentation Doug VK3UM showed how the dish was installed, on top of a turret mounting bearing for a Centurion tank.

John Clark VK2TK gave the only non-radio presentation on "Speech acoustics and intelligibility". It was interesting to learn how speech is generated, its source, filtering and output.

John VK2TK said research indicates that shouting actually reduces intelligibility while the use of normal conversation vocabulary of 4,000 or so words can help.

He also referred to "top-down processing" which is the term given to listeners filling in gaps, indistinct or lost words.

For weak-signal work, John VK2TK suggested it may be worth experimenting with narrower passbands than are currently used in SSB.

Using a Vocoder that has a speech analyser that converts analog speech waveforms into narrowband digital signals, a 500Hz bandwidth may be possible.

Rex Moncur VK7MO spoke of his WSJT FSK441 meteor scatter experiences. Rex and Ian McDonald VK3AXH began using this very interesting mode in October 2001.

There are now some 30 VKs known to be on WSJT for MS working, which was released by Joe Taylor K1JT in July 2001.

Rex VK7MO described how, when he went to VK8 to activate a gridsquare on WSJT, he had pile-ups of six stations eagerly seeking to make contact.

He still expresses fascination in how WSJT works. His presentation included an easy to understand explanation of the "mode", its equipment requirements, propagation availability, and typical distances achieved.

Depending on pings from the trails of meteors to provide propagation, contacts take up to 60 minutes or longer to complete. Signal reports are two numbers – the first the duration of the meteor burst, and the second the signal strength in dB above the noise.

In another presentation, Mike Farrell

VK2FLR described WSJT JT44 that was released in April this year with the claim that for steady signals, it could outperform CW by 10dB.

JT44 has become popular for tropospheric and EME (moon bounce) propagation due to it being most efficient for sub-audible signals. Mike VK2FLR said it has made EME working possible for many without the use of large scale antennas and high power.

JT44 differs from WSJT in that it requires both stations at the end of a contact to have time-synchronised transmitters and receivers, with many using shareware clock programs or other means.

Peter Loveridge ZL1UKG spoke on basic testing techniques at UHF and above. At home his kitchen table is set up as an antenna range. Later in the conference he gave a pictorial demonstration of a fellow ZL who has set up a steerable dish antenna.

By luck someone spotted a Seacat missile launcher (from a destroyer) in a scrap metal yard, available for its metal weight price. Through amateur ingenuity and adaptation, the once highly priced technology used in aiming missiles now steers a 6-metre EME dish.

The CSIRO's involvement in looking for a site to locate the next generation radio telescope, a square kilometre array, was explained by Brian Thomas VK2AMT.

A site in Western Australia has been examined for its radio quietness. Although a final decision on the location is expected in about eight years for the multi-nation project, which will provide 100 times more collection area than any other telescope.

It will also require radio quietness protection through legislation to create a 50km quiet zone (no transmitters) so the telescope can gather information on the origins of the universe.

The lecture program was peppered by four mini-presentations by Peter Ward, who is not a radio amateur but has vast knowledge of antenna theory and practicalities.

Other presentations included *The trials and tribulations of running basic VHF-UHF stations* Bob Demkiw VK2TG, *Solving noise problems in modern radio systems* Bryan Ackerley VK3YNG, *Predicting Es propagation* Brian Tiderman, *Integration of a 1W 10GHz PA with a 650mm offset fed dish* and *System integration with Milliwave power amplifier at 24GHz*, Neil Sandford VK2EI.

The program also included demonstrations, *Transmission line fault-finding using a simple homebrew TDR* John Morrissey, *Aids for predicting Aircraft Enhancement* Barry Miller VK3BJM, and *The Broomstick – an antenna for FM satellites* George Francis VK3HV.

(1) WIA EZARC http://www.qsl.net/vk3bez/

(2) The proceedings for 2002 will be available later at a cost of $20 including post and packing from the WIA Eastern Zone Amateur Radio Club (Inc)

C/- PO Box 273, Churchill, Victoria, 3842. Some back copies of previous proceedings are also available at $10 each plus $5 P&P per package. Inquiries first via e-mail to vk3kai@qsl.net

**nr**

# Correction

## VHF SWR and Watt Meters

The formula for the impedance of a round conductor in a square outer given in the article "VHF SWR and Watt Meters" by Paul Clutter VK2SPC is wrong. (Amateur Radio Magazine January 2002 page 4)

This formula (Z = 138log 1.178D/d) gives an impedance which is over ten percent too high at mid range (around 50 ohms). Whereas this is unlikely to make a noticeable difference to the performance of the meters described in the article it is completely unacceptable if it is used as a reference for making VHF power divider transformers which commonly use this form of construction. It would make the VSWR completely unacceptable. It is therefore important to get it correct.

It is doubtful whether or not there is an absolutely correct formula but there are at least five close approximations that give values that are within a few decimal points of each other and the measured values of this type of transmission line.

The simplest of these is given in the ARRL UHF/Microwave Experimenter's Manual on page 9-15

Z = 138log 1.08D/d

This appears to be taken from H. A. Wheeler, Proc. IRE, 38, 1400-1403, Dec 1950. Another readily found reference is "Reference Data for Radio Engineers" (The ITT Handbook) sixth edition page 24-22.

The incorrect formula given in the article was from an RSGB publication.

**Gordon McDonald VK2ZAB**

# Novice Cram Course

## A Review

C. Low VK5UE,
B. Edmonds VK3KT and
C. Taylor VK5CTY

**The comments that follow were brought together by the editor. We have all been through the course but of course we did not have to do the exam. This issue contains other comment, in OTU letters, on a student's reaction.**

The principle claim of the course is "You work through the course in about 4 weeks, at 1 hour a day, on your own (with arranged mentor/facilitator support) or you do it in three days in a group environment and you get a Novice Licence". This all has to be done with an exam booked just after you finish your study. This pressure helps keep you focused. The claims by the author Ron Bertrand VK2DQ seem to be accurate. Most students do pass first time and get a Novice Licence. Ron's letter to me quoted 56 passes out of 66 earlier this year.

Now for the more detailed critique. The course requires a computer and some knowledge of how to use it. I wondered how the instructions on how to fix faulty display could be read, if you had this problem. One of the reviewers had some problems with their computer configuration not being compatible. The presentation is a bit "amateurish" there are many places where corrections are made on the fly and the whole course would leave a better impression if a tidied up version were produced.

The course seemed to be built around Question banks from 1987. Now while the material does get the student through it would be greatly improved if the current Question bank were the source. Unfortunately some of the questions presented are no longer in the Question Database and the current Regulations include the changes to frequency access following from the morse qualification being reduced to 5 wpm. There is a lot of intuition in the selection of material. It would be hoped this was continually being updated by feed back from students when they have taken the exam.

The course does include a number of inaccuracies e.g. when referring to call sign allocation by classes it was not pointed out that all 2-letter callsigns are full calls but these will not affect the outcome.

Some of the responses to students' responses to the drills were considered flippant if not rude.

The course would benefit with the inclusion of some instruction on what parts should be printed for easier reference (and possibly how to do this). There is also a place for a bibliography of the material quoted and where the books can possibly be obtained i.e. from the local radio club, the council library or purchased from a local bookstore or the WIA VK2 Bookstore.

The course is limited to getting the student a Novice licence. The classes run by other groups have a much broader aim. They want to produce a student who can pass the full call exam and knows more than the exam requires. This can deter some students. Ron Bertrand's course gets you started and provided you realise that when Ron's Course has got you your licence, you have just taken the first step on a long journey. You have become involved in a most satisfying hobby that can give you a lifetime of pleasure.

**Ron Bertrand's course gets you started and provided you realise that when Ron's Course has got you your licence, you have just taken the first step on a long journey**

Finally the WIA hopes to have the current Question Banks on the web soon, these question banks include questions on the changes to Novice privileges granted since 1991.

## How do you get into the course?

Contact Radio and Electronics School manager@radioelectronicschool.com or telephone Ron Bertrand VK2DQ Manager Radio & Electronics School 07 5573 2795. (12-5 PM) Course information at http://www.radioelectronicschool.com

The course costs $15 and the material supplied is on 2 CDs. The drills timeout in about 4 weeks as a further incentive to work through the course in the 4 weeks recommended.

The course consists of

1. A set of multiple choice exam questions NBANK.DOC which you must print out.
2. A set of 30 PC based video Theory tutorials.
3. A set of 23 PC based software Novice Theory drills covering 23 exam categories.
4. A set of 6 PC based video Amateur Regulations tutorials.
5. A set of 5 Radio Regulations software drills.
6. Other optional documents in the DOC folder.

In conclusion the course is short and snappy. If you do the work it will get you a Novice licence in 4 weeks. (Exam dates permitting) but it is a bit rough at the edges and will benefit from continual updating.

You will still have to learn a lot about Amateur Radio when you finish. You have only placed your foot on the first step of the learning ladder.

We wish you well with your study.

**ar**

***See Ron Bertrand's response and student's letter on page 17***

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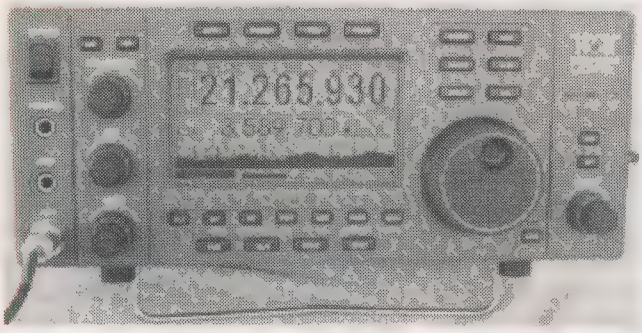

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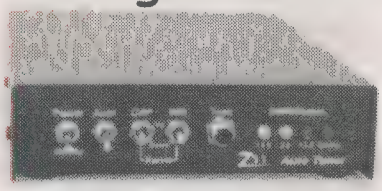
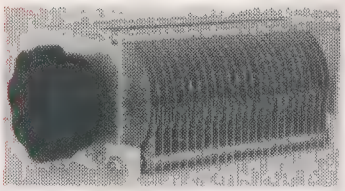


Z11 QRP Auto Tuner Kit

HF Receiver Kit

AT11-MP Auto Tuner Kit



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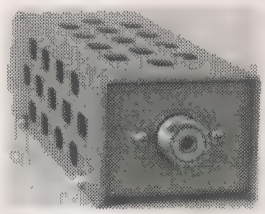
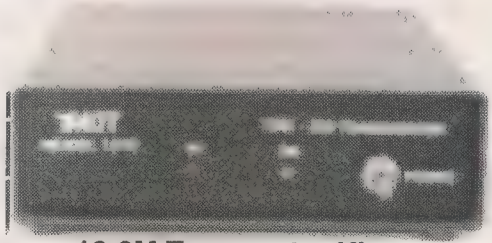


Dummy Load Kit



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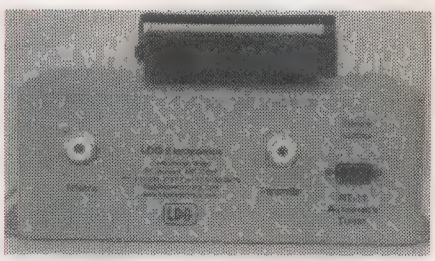

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# Novice Cram Course Review:

# Ron Bertrand replies

**Thank you for a copy of the draft review. I don't agree with many of the things said in the review but that's okay. The course stands on its merits.**

The style is laid back and on the fly and does not try to hide it. There is even the odd mistake - most are fixed as we go.

I think what has been missed is:-

Each student enrolled in the R&E School has access to email or telephone contact with a facilitator - so you would not be left on your own with monitor or software usage problems.

There is an enrolment process for students - that process has..." What sort of computer, sound card etc do you have?"

Most students report they enjoy the laid back style and the humour no one has ever reported being offended.

This is one course of 3 that the R&E school conducts. I don't like the reference regarding "classes run by other groups have a much broader aim". The R&E school runs 3 courses to suit student needs - I believe that the comprehensive courses that we run are second to none in this country. "Verifiable" enrollment for the year commencing Jan 1 2002 is 328 students. The student is informed of everything that they should print out. The 1987 question bank is not used - neither is the latest question bank - the set of questions used is drawn from both of those sources and some are made up.

The course is a Novice Limited course - that is its purpose. In the documentation the R&E school encourages the student to continue their enrollment with a more comprehensive course.

The Fast Track course was created because of the creeping Novice theory standard and poor Novice syllabus design. As an educator I can take a beginner to Novice theory via a comprehensive course in 16 weeks. However I could take that same beginner via a comprehensive course to the AOCP theory in 20 weeks! Which would you do! This is from my experience 28 years teaching of some 4500+ amateur radio students. So most students just elect to do the AOCP course.

Hence the Novice Fast Track course was done as a quick starter (never intended to be distributed - just happened by popular demand) and a prelude to the AOCP course BUT it is okay for a Novice Limited to stop at Novice Limited - it does not have to be a stepping stone - it is okay for it to be the finish.

The drills are set to time out in "about" 5 weeks. The suggestions of bibliography etc or to add any material or information not directly required for passing the exam is not warranted as the student is an enrollee of the school and is via the school provided with all study materials to obtain an AOCP theory exam pass for free -so why would we direct them to purchase materials that we provide for free. The "free" theory notes from the school cannot be matched by "any" external source from the school.

*EDITORS Note. Not all of the above was available to the reviewers. Their comments refer only to the 2 CD course material supplied by The Radio and Electronics School.*

**ar**

# Thank you to my Elmers

Just a short note to ask if you would consider publishing my vote of thanks to the two people who helped me achieve a pass in my Unrestricted AOCP exam which I sat last month here in Perth WA.

They are Ron Bertrand VK2DQ who wrote the Internet Radio & Electronics Theory Course that I used & later spent a lot of time going over possible exam questions.

Ron also sent me his disk based on the use of a scientific calculator for solving Math questions for AOCP. As a 74 yr old my limited ability at Maths diminished many years ago and I was hopeless while at school any way. This maths disk was a miracle for me.

Secondly my Facilitator here in Perth, Mike Todd VK6JMA. Mike remained totally unfazed by my continuous questions and by my many dubious answers to my assignments. He spent countless hours, patiently explaining the reason for the correct answers.

These two remarkable people put up with me for a whole long year. Without their voluntary support I would not have survived.

Thank you both.

Sincerely

**Graham Hewitt VK6HE**

# Club News

## Gold Coast Amateur Radio Club

**A highly successful 3-Day Cram Course was run by Ron Bertrand VK2DQ. 20 students and 18 passed. The club now has some new H class operators. An AOCP course is still in progress.**

JOTA will bring 2 Scout Groups to the Club Station. There will be about 30 Scouts and an overnight stay is planned.

We have been invited to the 100yr anniversary of the laying of the first trans Pacific cable from Main Beach, Gold Coast, Australia to California USA.

Roy Cotterill VK4LPV President, 07 5539 3530,

email: roykath1@bigpond.com

# Zener Diodes: still useful

(Originally published in the Adelaide Hills Amateur Radio Society Bulletin, March-April 2001)

By Lloyd Butler VK5BR

**These days, voltage regulator I/Cs are quite cheap and to establish a voltage regulated rail, the common approach is to use one of these. However there is still a place for the Zener Diode and they are useful for such applications as providing a further break down in voltage for some part of the circuit or providing a voltage reference. Here are a few notes on how to use them to get best voltage regulation.**

The Zener diode is the name given to a silicon diode which is operated in a reverse connected mode beyond the point where voltage breakdown occurs. At this point there is a sharp turn over of the voltage versus current curve to a condition where voltage across the diode approaches a fairly constant value independent of current. Typical circuit for Zener reference is given in figure 1. The complete diode curve including the reverse characteristic is shown in figure 2.

The name Zener was given to this breakdown effect because it was first believed to be due to the mechanism described by Zener in his theory of breakdown phenomena in dielectrics. Later on it was realised that not one but two mechanisms were responsible for the characteristics of Zener Diodes.

We are told that the Zener effect is a quantum mechanical effect in which electron pairs are generated directly from the energy of the electric fields. This effect is responsible for breakdown in diodes designed to have a breakdown voltage less than about 5 volts. Such a mechanism produces a negative temperature coefficient. That is, a decrease in developed Zener voltage as temperature rises.

As such, the general name given to a Zener diode is somewhat of a misnomer because for diodes with breakdown voltages greater than 7 volts, the breakdown is caused by a different mechanism called the Avalanche or Avalanche Multiplication effect. This mechanism produces a positive temperature coefficient, opposite to the Zener effect.

For diodes between 5 and 7 volts, both mechanisms occur and hence the temperature coefficients tend to cancel and such diodes have a very low temperature coefficient.

Figure 3 taken from some data sheets of the very early STC Z2 series Zener diodes is a very good illustration of how temperature coefficient varies with breakdown voltage. In selecting a Zener voltage for best temperature stability, 5 volt has been a favoured value. The curve (figure 2) supports this selection.

One idea for voltage rails above 5 volts is to use two Zener diodes in series to

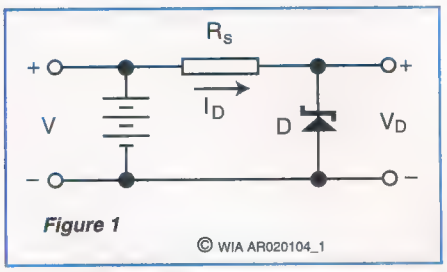


Figure 1. Typical Zener regulator circuit

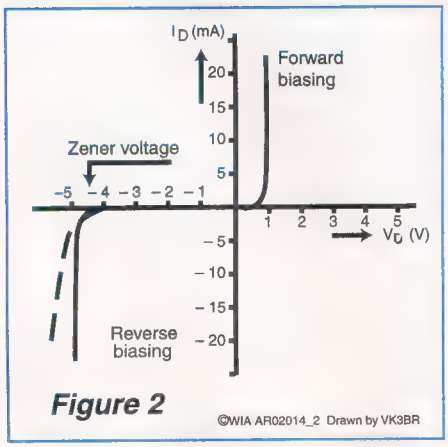


Figure 2 - Forward & Reverse characteristics of a silicon Zener

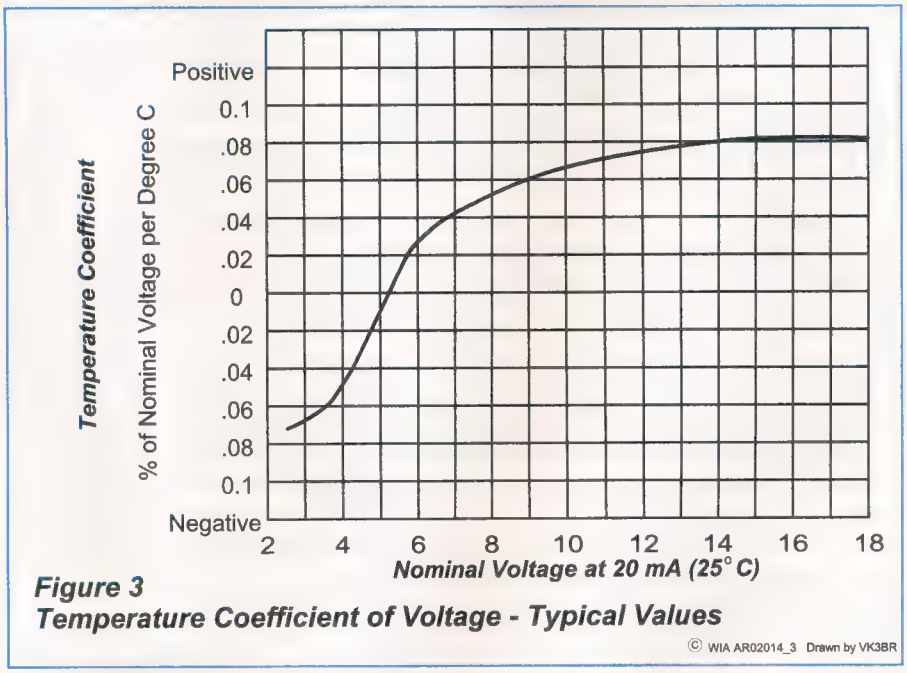


Figure 3 - Temperature Coefficient of voltage Typical values.

make up the required rail voltage, one above 5 volts and one below 5 volts so that the different temperature coefficients tend to cancel.

Another idea is to select the rail voltage a multiple of 5 volt and connect 5 V Zeners in series eg for 10 V rail use two 5 V Zeners. For 15 V rail use three in series.

A further idea suggested in a number of publications is to connect an ordinary silicon diode, forward connected, in series with the Zener diode so that the negative coefficient of the ordinary diode cancels the positive coefficient of the Zener diode. Of course this would only work for Zener diodes above 5 V and the 0.6 V drop of the ordinary diode would have to be added to the resultant regulated voltage.

In setting up the regulator circuit shown in figure 1, resistor Rs is chosen to ensure that the current through the Zener diode is sufficient to place operation beyond the bend in the reverse curve and into the almost vertical section of the curve. One interesting point is that diodes operating above 7 V using avalanche breakdown have a sharper turning curve than those below 5 V using Zener breakdown.

This is fine for a constant load at the Zener diode regulator output. However if the load is variable, there is also the further consideration of voltage regulation determined by the slope of that near vertical section of the curve. In figure 2, the solid line shows good regulation whereas the dotted line shows poor regulation. The regulator dynamic resistance is equal to the reciprocal of the slope of that section of the curve (ie. dV/dI). Hence the lower the dynamic resistance, the better the voltage regulation. Another point concerning the two types of breakdown is that diodes operating above 7 V give better regulation than those below 5 V do.

Figure 4 shows an interesting set of curves that plot dynamic resistance against breakdown voltage for different currents through the diode. This shows that lowest dynamic resistance (and hence best regulation) is achieved using diodes around 7 to 8 volt. It also shows that the dynamic resistance falls as the diode current is increased.

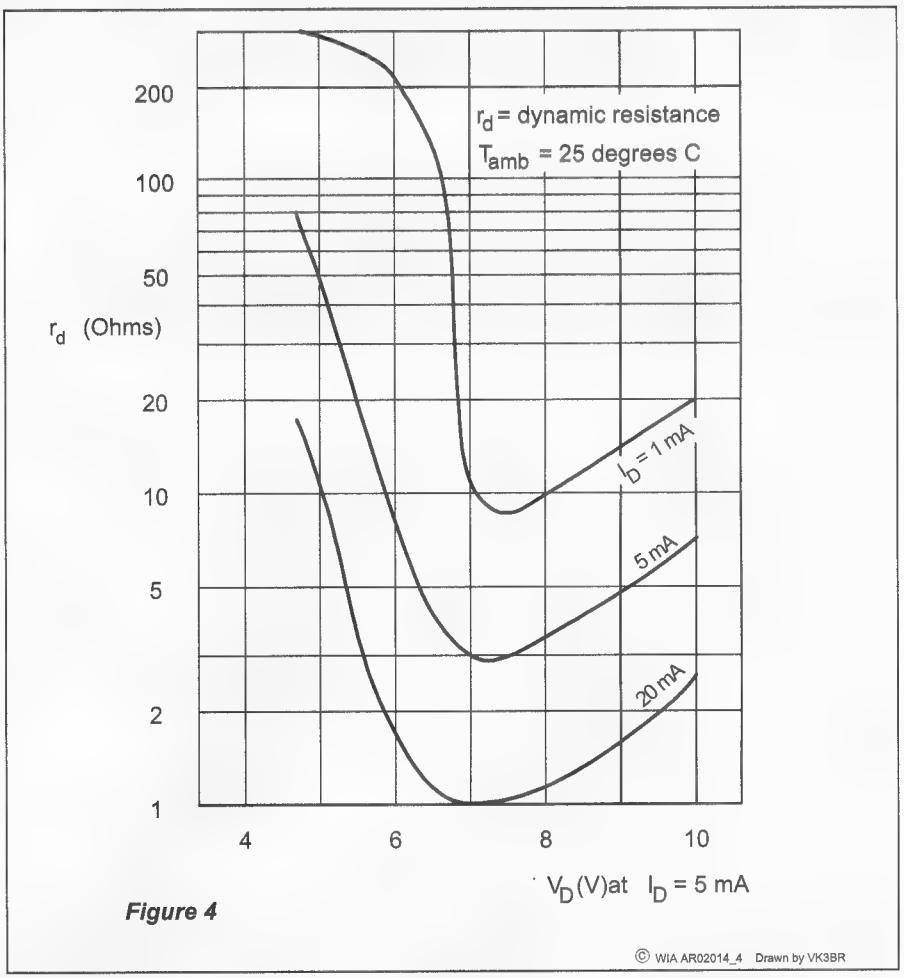


Figure 4 - Dynamic Resistance as function of Zener voltage for various values of constant inverse current

So for best regulation, we might use zener diodes around 7-8 volts (or a series multiple of them) and run plenty of current through them. On the second point we might call a halt and rather than waste power in the diode we might choose instead to use the more efficient series regulator I/C for the variable load application. It really all depends on the particular circuit operation.

Most of us have used a Zener diode at some time or other to derive a lower voltage or provide a voltage reference. It's all very simple - a shunt Zener diode and a series resistor. However a little thought to the characteristics I have discussed might be useful in better achieving the desired circuit operation.

## Reference

Zener Diodes & their Application - Miniwatt Digest, July 1966

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# Technical Abstracts

**Gil Sones VK3AUI**
30 Moore Street, Box Hill South Vic 3128

# Linear Loaded Dipole

**A shortened dipole for 40 metres which used linear loading was described by Lew Gordon K4VX in July 2002 QST. The linear loading was performed by lengths of 450 Ohm ladder line. The loading elements were placed in circuit at the centre of the dipole at the feed point.**

The antenna is shown in Fig 1. The loading elements made from 450 Ohm ladder line are supported on the dipole by threading the ladder line onto the dipole wire. The ladder line insulation has holes punched in it every 6 inches and the dipole wire is threaded through these holes. The dipole wire supports the ladder line and maintains the relative position with respect to the ladder line loading element in this way. The outer ends of the ladder line are shorted together and must be kept insulated from the dipole by taping them well. The ends are fixed in position by a nylon cord which is fastened to the dipole element by a split bolt connector and tied and taped to the ladder line.

The antenna is fed with 50 ohm coax and Lew K4VX used a choke or current type balun at the feed point. This was a simple one made by coiling up some feed line. A commercial balun could be used but a simple coil of coax is quite effective.

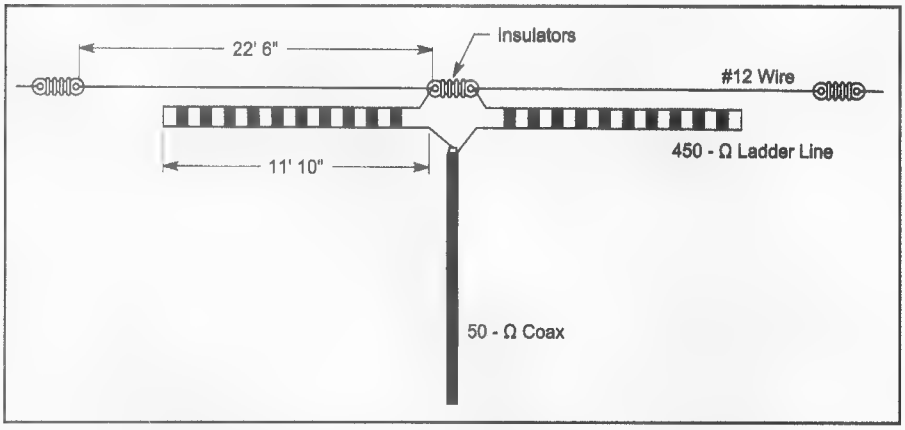


Fig 1. K4VX Linear Loaded 7 MHz Dipole. The 450 ohm ladder line is actually threaded onto the 12 gauge antenna wire for support.

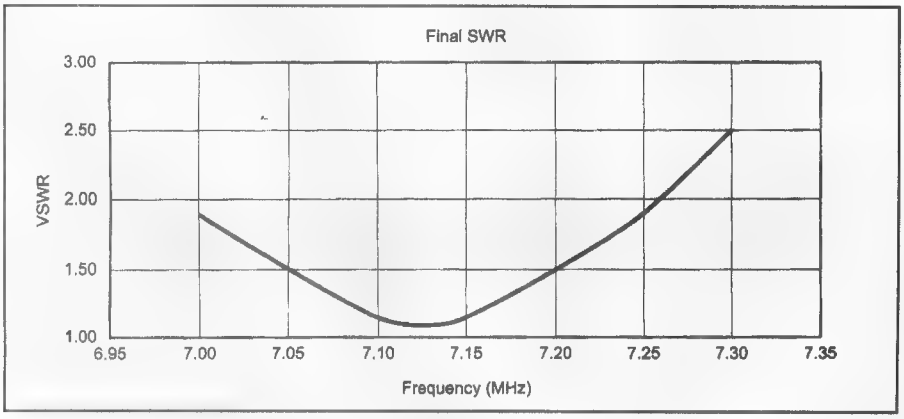


Fig 2. SWR Curve of K4VX Linear Loaded Dipole.

The SWR curve of the antenna built by Lew K4VX is given in Fig 2. The antenna was initially cut for 7.025 MHz with the dipole 46 feet long and the loading lines 12 feet long. Scaling is not quite as simple as with a simple dipole. Lew tried shortening the dipole tips and the loading lines by scaling to 7.125 MHz and moved his initial antenna to 7.2 MHz. Then after some experiments he came to the lengths given in Fig 1. If you wish to move the resonance the dipole lengths are probably the simplest to adjust for moderate frequency excursions.

The antenna wire used was 12 gauge copperweld. A similar diameter wire would be suitable and adjustment to the length to trim the resonance would be in order. The antenna is only moderately shortened and should offer performance close to a full size antenna. Experimenters could try the technique on 80 metres but should be prepared for some experimentation to get it onto frequency.

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Column

# Making An LED Audible

**Sometimes an LED indicator would be handier as an audible indication. In the Hints and Kinks column of Bob Schetgen KU7G in QST July 2002 a way of adding an audible indication to an LED circuit was given by Michael A Covington N4TMI.**

Two ways of adding an audible indication are shown in Fig 3. The simplest is shown in Fig 3a and consists of simply connecting a 3 volt piezo buzzer in parallel with the LED. This will not be very loud but it is a simple solution.

A louder sound will be given by the circuit given in Fig 3b. This uses a piezo sounder instead of a buzzer. The transistor multivibrator provides more drive to give higher (louder) audio output. The resistor and capacitor values can be modified to provide a sound to your taste.

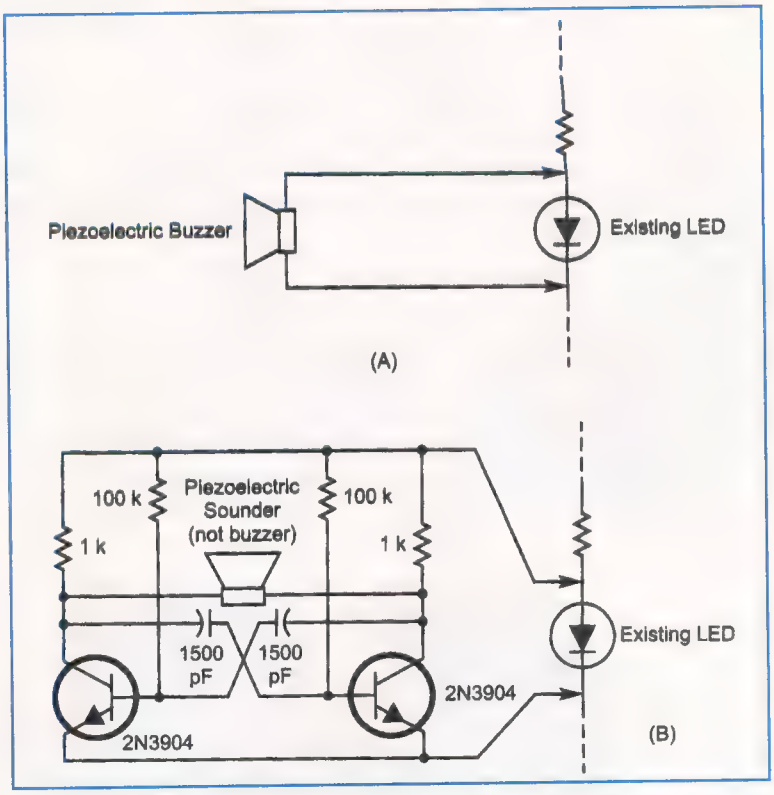


Fig 3. (a) 3 volt Piezo buzzer sounds faintly. (b) Oscillator provides greater drive to Piezo Sounder.


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# Power Line Monitor

Wim van den Broek, PA0JEB

published in "Electron" magazine, March 2002, translated by VK3BHW.

**An auxiliary used in conjunction with an oscilloscope to determine accurately what is delivered to the power socket in your home besides the promised clean 240Vac/50 Hz.**

For some time now the possibility of digital signals via the 240Vac power line, Power Line Communication (PLC for short), has been in the wind, and might possibly already be present. The announcement of a test in the town of Arnhem really fired up my curiosity.

To connect the oscilloscope straight to the 240 Vac is far too dangerous. The circuit I propose has two signal paths.

*Voltage isolation is essential. The reason for this should be well understood by the reader, if not, do not attempt this project.*

The first channel provides a clean 50 Hz signal of relative small amplitude. This serves to trigger the oscilloscope jitter free. On a two channel oscilloscope it serves to show the phase relationship between the two signals.

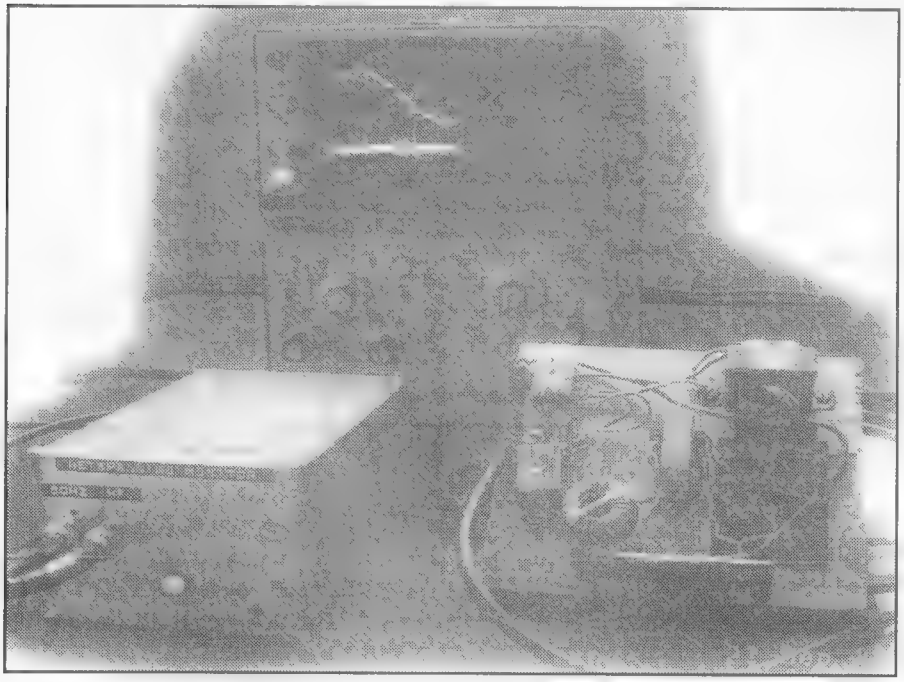


Figure 1

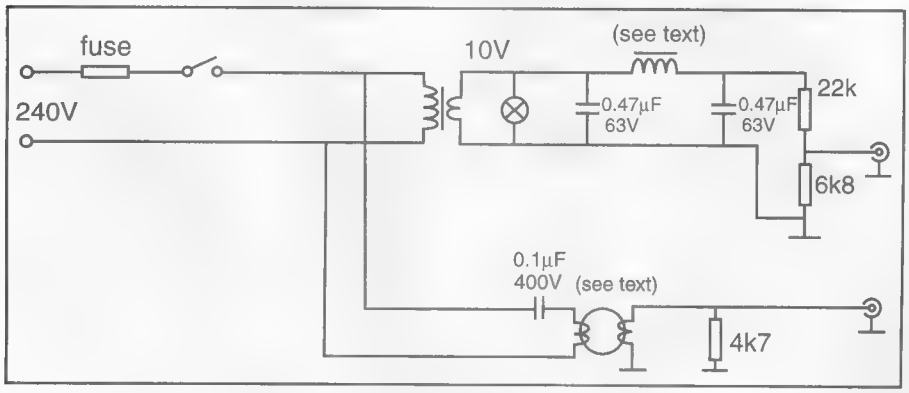



Figure 2

The low-pass filter in this signal path is a choke and requires a few Henry. As my junkbox could not deliver, I used the primary of a small mains transformer. The values of the capacitors didn't appear to be critical at all. The signal coming from this filter is nice and clean. The attenuator depends on the voltage available and the sensitivity of the oscilloscope and is usually not necessary.

The second channel serves to suppress the 50 Hz as much as possible with the intent to observe the higher frequencies properly amplified for good observation. The required voltage isolation is obtained with parts from a filter as used in computers, TV's and video recorders.

Stripping some of this equipment every now and then provides a treasure of goodies.

The filter consists of two windings on a toroid core, normally used to prevent switch mode noise getting into the power net. Here it is used with a small coupling capacitor to separate the components higher than 50 Hz from the 240Vac.

A resistor of 4k7 ohm across the secondary of the core is used to dampen ringing of the winding. This transformer with the in series connected capacitor needs some closer scrutiny. The higher the frequency you anticipate the smaller the capacitor should be. Also the inductance of the coil should then be smaller.

However a toroid core with two windings of 10 turns each and a series capacitor of 100pF was used in my hometown of Voorthuizen (near Arnhem).

However hopeful the propagandists of PLC might be the power grid doesn't look like a good medium for HF signals. The reactive capacitance of the grid is far too small for the purpose of PLC.

The best results obtained, that is to say in the frequency band below 1 MHz,

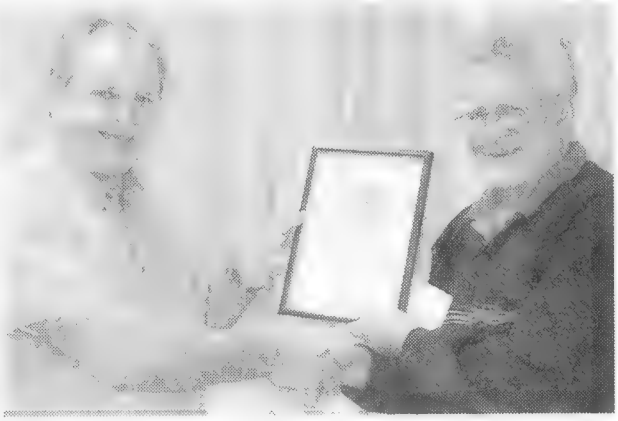
# Dr Wally Howse VK6KZ wins AR Technical Award

**Every year the Publications Committee of Amateur Radio Magazine reviews the material we have published in the previous year.**

We look for the article which has greatest merit for its technical content and a contributor who has contributed significantly to the Amateur Radio Magazine and Amateur Radio.

Dr Wally Howse VK6KZ had done considerable research both in the scientific literature and practically on the conditions, which affect propagation at VHF, UHF and microwave frequencies across the Great Australian Bight from the Australian West Coast to South Australia and Victoria. The article was also well presented.

Wally was awarded the Amateur Radio Technical Award for 2001 for an article titled "VHF, UHF and microwave propagation and The Great Australian Bight", which appeared in the March 2001 edition of AR Magazine.



Malcolm Johnson VK6LC (VK6 WIA vice president) presented the award on behalf of the WIA to Dr.Wally Howse (VK6KZ).

## Power Line Monitor continued

were with two 30 turn windings on the toroid core and a capacitor between 10 and 100 nF. Make sure that the capacitor has a rating of at least 400V.

The result is quite interesting. Besides a number of switching pulses, which are almost continuously present with a relatively low amplitude, sometimes pulses of many volts are present. Sine wave like signals of about 400 Hz are also observed.

The circuit enables us to correlate the interference we observe on amateur bands with the activities observed on the power grid. In this way we can determine if our fears for PLC interference can be substantiated. It also can be a contribution to arguments for the rights of anyone besides amateurs, who could suffer from a substantially interfered with. RF spectrum

Lots of fun with the project.

**Written by Wim van den Broek, PA0JEB, Voorthuizen, Netherlands, ar**

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**Ernie Hocking, President**
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# Club News

## Adelaide Hills Amateur Radio Society

The talk last month was titled "What to do when.." Geoff VK5TY, from his considerable experience, discussed a few of the problems you can encounter when you are asked to provide a sound system by your local school, Probus Club or other organisation.

Somehow people come to think that because you are a radio amateur you also automatically know all about microphones and loudspeakers for all situations. What these people overlook is that the equipment suitable for a radio shack cannot be just transported out of doors or into a large hall and work equally well there.

He had a number of items to show and explain and demonstrated the difference between the requirements of a hall and fete in terms of adequate sounds. What works in one place can sound very thin, or much too loud in another place. Horses for courses.

### An interesting talk

The next meeting will be addressed by John VK5EV. It will be very enlightening to those contemplating whether or not to enter the digital TV age. John has been involved in this technology for some time so should give us some insights.

That meeting and all regular meetings will be held on the third Thursday of the month starting at 7.30. Everyone is welcome to attend.

AHARS annual "Buy and Sell" will be on again on 23rd November in the usual venue, the Westbourne Park RSL Hall, Goodwood Road Westbourne Park. Sellers tables $10 each with access from 8.00, entry to the hall from 9.00 for $2 a head.

Come along to grab some bargains and to meet your friends.

The photo was taken last year. Wall to wall people!

## Southern Group Luncheon

The group of amateurs, who live in and around Goolwa, gathered again in August for lunch and a chat. As you can see they make a cheerful bunch. I wonder how many of them you recognise and how many of them you have worked on the air. Some of them have been operators for many, many years.

## Gippsland Gate Radio and Electronics Club

I trust that everyone who attended last month's General Meeting found the talk on Home Automation interesting. Shows where the future is in home electronics.

As a matter of interest, it looks like we have found a new venue for our Annual Hamfest (White Elephant Sale). With a bit of organizing, I am sure we will put on a pretty good show in 2003. We will be announcing the new venue soon and will begin taking bookings from then, so keep an eye on this space for more information or visit our website.

October means JOTA to all amateurs with this year's event following usual organization at the GGREC meeting rooms. Keep the 19th free to assist with the day's operation. The night before JOTA is the General Meeting for the month that will feature Phil Pavey showing off his talents using the latest digital modes for Amateurs.

As a wind down from JOTA, the following Saturday (the 26th) will see the first of this season's Fox Hunts held. Details will follow soon so get out the DF antennas and brush off the cobwebs. Plans are being put together for a trip to French Island. If you are interested keep the 9th November free and stay in touch for more information.

November's General Meeting features guest speaker Mike Krochman whose talk is entitled "Fun on Four Continents".

While we are on this date, please note that if you or someone you know is planning to sit an Amateur exam, the last one for the year, to be run by Peter VK3VB, will be held on the 30th November. This means that the closing date for applications is the 15th November. This will be your last chance to get a callsign (& perhaps a new radio) for Christmas.

Since the Pub Nights are such a success, another one is to be held on 23rd November. This one is to be confirmed but if popularity dictates, it will be held at the Cranbourne RSL or Tooradin Hotel.

Don't forget our usual Prac. Night on the first Friday of the month and the General Meeting on the third Friday of the month.

For more information as always visit www.ggrec.org.au

## Central Highlands Amateur Radio Club of Tasmania (CHARCoT)

**The Central Highlands Amateur Radio Club of Tasmania (CHARCoT) has recently announced a new contest that is a little different from the norm.**

The contest will be known as the 80 metre Dash for the Wadda Cup, and is open to all VK amateurs.

It will be held on Thursday 28 November, 2002, starting at 1000 UTC (or 8.00pm ESST).

As the name implies, the contest will be a dash to make as many contacts as possible during a 30-minute period.

The contest manager, Vince Henderson VK7VH, will operate the CHARCoT club callsign VK7CHT. Contact with this station will earn the contester bonus points.

When the contest has concluded, all contestants will gather on 3.585 MHz to join in a roll call and find out who is the provisional winner of the Wadda Cup contest. If there is a tie, a countback procedure will be used. The winner will have their name and callsign etched in glory on the Wadda Cup and, along with 2nd place contestants, will receive a contest award certificate.

The main aims of the contest are to –

- Encourage on air activity in a short, friendly contest.
- Provide amateurs with the opportunity of accumulating contacts for the CHARCoT Tassie Trout Award and the Tasmanian Division of the WIA Tasmanian Devil Award.
- Encourage entry of first time contesters.
- Promote on air activity of VK7 amateurs.

Full contest details are available on the CHARCoT website www.vk2ce.com/vk7cht

Also, look for details in Amateur Radio magazine.

CHARCoT holds a regular Thursday night Quiz net on 3.585 MHz, starting at 8.00 pm (EST). Further information may be obtained on this net.

So, if you want to have some fun in a quick fire contest, have a go at the 80 m Dash for the Wadda Cup. Remember, the date is Thursday 28 November, 2002, starting at 1000 UTC (or 8.00pm ESST).

73s

**Vince Henderson VK7VH, Contest Manager.**

## Summerland ARC Support of Horse Enduro

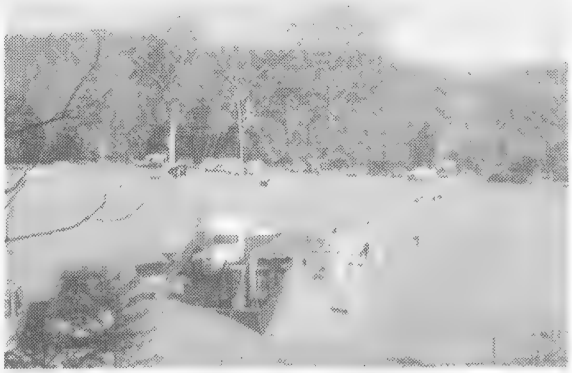
### HORSE ENDURO - Eden Creek. 6-8 Sept

An excellent weekend was had in fine weather. Unfortunately due to illness and work callouts we were short of operators. We could only cover the three priority checkpoints, skipping three others. Non radio people were put in the gaps. However it all worked.

Four rides were run up to 40 km each day, starting from 0500 until about 1400K. Longer than planned but the heat dragged them out.

No major dramas, only four horses needing farrier shoeing, no medical emergencies. Equipment and comms all worked OK, some fine tuning to be done as always.

It is hoped to have more operators next February. Come along.



A general view of the COMCEN and area.

# ALARA

**Christine Taylor VK5CTY**
vk5cty@vk5tty or geencee@picknowl.com.au

## The Contest

Conditions were marvellous this year. Hope you made lots of contacts. Hope you also remember to send in your logs. All OM and Club stations are welcome as well as YL stations.

Did you note the change of email address? Email logs should be sent to Marilyn VK3DMS
dgsyme@hotkey.com.au

Or they can be sent to her at 99 Magnolia Street MILDURA 3500

If you are coming to Murray Bridge, as long as you remember both to take your log to the ALARAMEET and to pass it on to Marilyn there, that would be in time.

Logs must be in by 31st October 2002.

ALARA does appreciate the number of regular OMs who now participate each year. This year there were more ZLs than usual on the Saturday evening, which was, unfortunately the only time I was able to be there.

## Bonuses to the ALARA Contest

Unlike contacts made during net-operation, contacts made during contests can be used for awards. The ALARA Award has been going for many years and only requires 10 YL contacts as long as they include contacts from at least five VK states. These are not difficult to obtain when all the bands can be used at some time during the day and two evenings. I hope you took advantage of it.

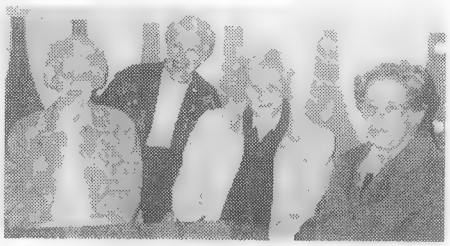
The 33 Award is a one-off award, only available during the 2002 calendar year. It requires 33 YL contacts with no restrictions on QTH. I hope you are getting close to that one, too.

The addresses to which you need to apply for these awards were in the previous "Amateur Radio" magazine.

## A Special VK3 Luncheon

Recently the VK3 girls had a special luncheon to celebrate Mavis VK3KS's 61 years on air. The photo shows Mavis, Robyn VK3WX, Bron VK3DYF and Jessie VK3VAN and was taken by Gwen VK3DYL.

Well done Mavis. We look forward to many more years on air for you, too.



## A couple of items from our newsletters

Did you know that there is an organisation to provide information about our marvellous hobby, to handicapped people? The acronym is IPHA (for Information Program for Handicapped people interested in Amateur radio).

There is a web site http://www.users.bigpond.com/tobbe/iphahtm.htm

Agnes VK2GWI/PA3ADR is the coordinator for the IARU in Region 1 and would love to hear from you if you know of any programs that are appropriate. Only if we know what the various clubs around the world are doing can we encourage handicapped people to join our ranks. Amateur radio is a hobby that is peculiarly suitable for less mobile people to enjoy in exactly the same way as we enjoy it. Not all hobbies are as appropriate.

A story was sent to Dot VK2DB some time ago about the "black box" designed by Dr David Warren, in Australia, in the 1950s. These recorders have become mandatory and invaluable in aircraft all over the world. It first proved its worth in a crash near Mackay in 1963.

However, the "black box" is NOT black. It is red, a much more visible colour, you must admit. Let us hope we never have need of a red black box ourselves.

## The DXpedition

Did you make contact with VK9YL on Lord Howe Island, or ZK1XYL on either of the Cook Islands? Don't forget to send for your cards to confirm the contacts.

The QSL manager will be Gwen VK3DYL, as before. She is waiting for your applications with bated breath.

## Barbara has done it again!

Barbara VK3BYK has scooped the pool for lingerie and nightwear, at the Adelaide Show AGAIN. Every year Barbara enters six or more items and each year she wins many prizes. This year there are at least six garments with "First Prize" tickets on them. What's more the garments are really beautiful and would be a joy to wear.

Our congratulations, Barbara.

Now how about some others showing off the very great handcraft skills we see at the ALARAMEETS. While it is nice to see them there, it is a thrill to see them displayed for all to enjoy, and to be able to say to people standing around. "I know that lady"

Let us all share some of the glory. Show it off!!

## Murray Bridge

By the time you read this the ALARAMEET in Murray Bridge will be all over and we will be looking forward to the next MEET in three years time. This can be said with complete confidence because experience has shown that these meets are just a lot of fun and a lot of chatter as we all renew old friendships and make new ones.

# Beyond Our Shores

David A, Pilley VK2AYD
davpil@midcoast.com.au

## Japan Power Line Decision

Japan has been working on the problems of interference from Powerline Telecommunications Systems. Following extensive trials, the Ministry of Public Management, Home Affairs, Posts and Telecommunications has decided not to permit the roll-out of PLT systems operating in the range 2 to 30MHz in Japan. Japanese studies have shown that emissions from PLT are harmful to HF communications and all requests from PLT manufacturers to operate PLT systems on HF have been refused. It is understood that the Japanese amateur society, JARL, has been actively working with the government, along with radio astronomers, broadcasters and others, to assess the impact of PLT systems on the radio spectrum. We understand that this decision has been given much publicity in the Japanese national press, which has highlighted concerns about interference to safety-of-life services. In Europe, the RSGB continues to press for tight limits on emissions from cable telecommunications systems such as PLT, and is working with other HF users to try to ensure that the spectrum remains uncontaminated by wideband noise.

**(GB2RS)**

## Vale World Amateur Radio Call Book

Remember those wonderful big books with the flying horse on the front and inside the call signs, names and addresses of Amateurs throughout the world. If you still have one then save it, it will soon be a valuable antique! Now the CD ROM is in demise.

Radio Amateur Callbook (USA) is throwing in the towel and will cease publication of its CD-ROM Callbook product effective with its winter 2003 edition, which will come out in November. "Due to accessibility to the FCC database via the Internet, sales have declined to levels that make it unprofitable to publish future editions," publisher Bob Hughes announced in a recent news release. In 1997, citing "rising costs and increasing demand for electronic publishing" the company phased out its telephone-book-size paper North American and international editions in favor of its CD-ROM product. The 1997 Callbook—the 75th edition—was the last hard-copy version available. The Callbook began publishing in 1920.

**(ARRL N/L 9/8)**

## UK "Fivemeggers" enjoying experimental activity

The so-called "Fivemegs Experiment" in the United Kingdom got off to an enthusiastic start in early August. Several amateur stations wasted no time in obtaining the required Notice of Variance—or NoV—to operate as part of the experiment to investigate band propagation. The Radio Society of Great Britain (RSGB) announced in July that the Radiocommunications Agency (RA) and the UK's Ministry of Defence have granted permission to allocate five frequencies in the range 5250 kHz to 5450 kHz.

"We now have over 200 Full Class A license holders authorised to operate on the five spot frequencies," said RSGB Spectrum Director Gordon Adams, G3LEQ, who is directing the experiment. Frequencies available in the UK are 5260, 5280, 5290, 5400 and 5405 kHz. Gordon says 5400 kHz is serving as a calling channel, but UK stations have been looking for US experimental activity on 5260 kHz. Activity in the UK has been on upper sideband.

Responding to an ARRL petition earlier this year, the FCC has proposed allocating 5250 to 5400 kHz to US amateurs on a secondary basis. US operation under the ARRL's WA2XSY Experimental license continues on an occasional basis. Charly Harpole, K4VUD—a WA2XSY participant in Florida—reports that Paul Gaskell, G4MWO, in England confirmed reception of Harpole's 5-MHz CW signal on August 8 at 0200 UTC.

A transatlantic two-way on 5 MHz is the next logical step, but it's unclear if WA2XSY participants are permitted to work the UK experimenters within the scope of the WA2XSY license. The ARRL is researching that question. In the meantime, cross-band contacts remain an alternative.

As propagation indicators, the UK experimenters are listening for WWCR, an international short-wave broadcaster at 5070 kHz. WA2XSY experimental stations in the US were advised to check for USB stations RAF Volmet on 5450 kHz and Shannon Volmet on 5505 kHz.

Tim Kirby, G4VXE, was one of the first UK amateurs to receive a NoV on August 5. "Within a few minutes he was on the air using a 100-W transceiver and an end-fed wire tuned for the 5-MHz band," the RSGB reported. He worked several other stations in England and Wales on his first day of operation. The RSGB said Kirby's first impression of 5-MHz propagation was that UK signals seem to be consistent throughout the day and evening and that signals were better on 60 metres than on 40 metres for certain paths.

For more information on the UK experimental activity on 5 MHz, visit The Fivemegs Experiment page <http://www.rsgb.org/licensing/fivemegs/fivemegs.htm> on the RSGB Web site.

**(ARRL N/L 16/8)**

*continued page 29*

# Spotlight on SWLing

by Robin L. Harwood VK7RH

# No escape!

**As predicted, there was no escape from it! The events of September 11th 2001 were retrospectively analysed. The remembrance ceremonies for victims in Washington, New York and Pennsylvania were broadcast with a wide cross-section of views. The main service in New York at "Ground Zero" was broadcast live over many international and domestic shortwave stations, together with the other ceremonies.**

At present, the Bush Administration is having difficulty persuading other nations and allies to join their crusade against Iraq and its leader, Saddam Hussein. This is reflected in broadcasts from the official VOA and also surrogate broadcasters such as Radio Liberty and especially the Arabic "R. Sawa". The day after the "Ground Zero" commemoration, President Bush addressed the United Nations General Assembly to state the American case against Saddam Hussein and Iraq. This too was broadcast live.

## R. Sawa unpopular

'R. Sawa" which in Arabic translates as together, recently inaugurated a powerful MW sender in Cyprus to add to senders in the Gulf. 'R. Sawa' is supposed to be available over domestic FM but the Americans are having difficulty in obtaining channels in many Islamic countries such as Saudi Arabia and Egypt, both allies of America. Apparently the program content does not go down well with the conservative Islamic administrations. That is why MW and shortwave are the primary platforms used to transmit the soft-sell message of modern American and Arabic popular music, interspersed with frequent news bulletins favourable to American interests.

## Spy traffic

Expect an increase not only in propaganda output, but also in diplomatic and military traffic via HF. A good indicator will be an increase in spy number cipher traffic to agents scattered worldwide. The British use Interval signals to introduce their numbers using either 'Cherry Ripe" or the "Lincolnshire Poacher". The Israelis are often easily identified from their continuous tape loop with callsigns such as "Charlie India Oscar two". Many of these spy number stations are close to the existing amateur bands and naturally vary their schedules and operating frequencies. Don't expect though to crack their ciphers.

One spy numbers station has been running a regular schedule on the same channel for decades. It is believed to be in Taiwan and known as the "New Star station". It is usually on 8300 kHz but of late has been on their alternative channel of 8375. The carrier seems to be permanently there and it seems to transmit at 1100Z and 1300Z. According to recent monitored traffic it actually solicited reports on its signal and gave a Hotmail email address.

**Expect an increase not only in propaganda output, but also in diplomatic and military traffic via HF.**

I very much doubt agents could have managed to send any worthwhile traffic because the email address would have been flooded with SPAM. Anybody who has used Hotmail will attest to that.

## Radio Finland cuts back

Paul, VK4DJ asks if Radio Finland was really going to cease broadcasting in English via shortwave because the current schedule did not indicate that. The board of YLE, its parent organisation, confirmed that it will cease all foreign language programs via shortwave except Finnish, Swedish, Russian and Latin. The weekly news bulletin on Saturdays will continue. Finland must be the only station with a news broadcast in Latin. The Vatican broadcasts Latin liturgies but not the news. English and the other language services will continue via the Internet and on domestic radio for tourists and travellers to the main Finnish cities. English is slated to finish over shortwave at the commencement of the B-02 period, October 27th. However the cutbacks have already been put into place.

## Antenna suggestions

I also received a very interesting suggestion from Felix VK4FUQ about installing a matcher to my antenna. Felix uses a Sangean ATS 505 multiband portable in his bedroom and found that naturally it overloaded with an external aerial so he devised an "L" matcher that works very well with 21 feet of wire. He wrote:

> "It improves the performance of the short wire very considerably by the simple expedient of improved impedance matching. The fundamental resonant frequency of a short wire about 21ft long is around 11 MHz, only series inductance is needed to electrically load the wire to quarter wave resonance on lower frequencies, the varicap serves no useful purpose and should be switched out. On frequencies higher than resonance, the varicap should be switched in circuit and used to tune out the inductive reactance of the wire. It works! This is really nothing to building the unit. All one requires, is a tapped coil wound on a short ferrite rod (I used 40 turns all up tapped every few turns), a multiway rotary switch, a miniature tuning capacitor (both gangs connected about 260pf total capacitance), and a switch, to short out the tuning cap, when used on lower frequencies. I find my L match, when used with a 25 ft wire, extends the low end to a least 2.5 MHz and on the high side, all the way to 30 MHz with greatly

improved performance overall. Incidentally, no earth connection is needed."

A very interesting suggestion for those with multiband portables and I may try it myself with the Digitor when I go away on vacation. However it does not have an external antenna position like the Sangean, only a whip, and I have noted that it does work with my Kenwood ATU, attenuating overloaded signals.

I also received an email informing me that Pat, presumably VK7GV, managed to obtain help getting his external antenna erected at his retirement village. Thanks to all, who have wished me well in my endeavours to finally get an outside antenna. However this location is prone to high winds, especially at the equinox and it was fortunate that it had not been erected because I am certain it would have been blown over.

## Summer Time

Don't forget that some of us do revert to Summer Time this month. Tasmania is the first one on the 6th followed by our cousins across the Tasman on the 13th. VK1, 2, 3 and 5 revert on the 27th whilst VK4, 6 and 8 remain fixed on Standard Time.

Any news or comments can be forwarded to me at my email address at vk7rh@wia.org.au or to the snail mail address below.

Until next time, the very best of 73

**- Robin L. Harwood VK7RH,**
20/177 Penquite Road, Norwood, Tas. 7250

**ar**

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***Beyond Our Shores* continued**

## Global Ham Ticket

Ham radio has moved another step closer to an internationally recognized license. Delegates to the Third Regular Assembly of the Inter-American Telecommunication Commission (CITEL) this month approved a resolution that would extend reciprocal recognition of the International Amateur Radio Permit (IARP) Convention to member states of the European Conference of Postal and Telecommunications Administrations (CEPT).

The resolution includes as a goal "to promote the development of a global Radio Amateur Permit working with other regional organizations within the framework of the International Telecommunication Union."

ARRL Technical Relations Specialist Jon Siverling, WB3ERA, attended the CITEL Assembly August 12-16 in Washington, DC, as a member of the US delegation. "In an ideal world, we'll one day have an international Amateur Radio permit that's like an international driver's license—good around the world," Siverling said. He conceded that CITEL-CEPT reciprocity will not benefit US amateurs, however. Only licensees elsewhere in the Americas would be affected, since US licensees already enjoy automatic or nearly automatic reciprocal licensing in many countries throughout Europe and the Americas.

**(ARRL N/L 23/8)**

It's a wonderful dream. It's a pity Australia does not completely reciprocate with the CEPT as the USA and other countries have done. Saying "DL/VK2AYD" in Germany is a great way to attract interest in our Country and maybe promote tourism. Instead I have to use another call sign.

**ar**

# WRC 2003

**The following are some of the donations that have been received so far.**

**On behalf of the Directors and Federal Council I would like to thank you all very much for your generosity.**

**Your donations are important to us to ensure that the interests of amateur radio are properly represented at WRC 2003**

**Ernest Hocking VK1LK - Federal President**

| | | | |
|---|---|---|---|
| L30700 | VK3KAI | VK2SKY | VK5ZYS |
| L30978 | VK3KAU | VK2SO | VK6AAJ |
| VK1CDS | VK3KWH | VK2STD | VK6ADI |
| VK1ENG | VK3LC | VK2UAI | VK6BCU |
| VK1GH | VK3PDX | VK2UX | VK6BR |
| VK1KED | VK3RS | VK2WL | VK6FRE |
| VK2BBJ | VK3TCR | VK3ALU | VK6FV |
| VK2CNP | VK3XP | VK3BIL | VK6LZ |
| VK2COT | VK3YE | VK3BQO | VK6OU |
| VK2DT | VK3ZLN | VK3BRF | VK6ZLZ |
| VK2EFT | VK4MHV | VK3CAZ | VK7EE |
| VK2FAF | VK4ZRT | VK3CEK | VK7FC |
| VK2GHB | VK5ALM | VK3DOU | VK7HSC |
| VK2GIF | VK5EMI | VK3DPE | VK7KY |
| VK2JGH | VK5KJL | VK3DYL | VK8NUE |
| VK2KIQ | VK5UV | VK3HX | |
| VK2PR | VK5WO | | |

# Silent Key

### John Ramsay Trevena VK3AZX, my Dad

The purpose of this letter is to let the Wireless Institute of Australia know of my father's passing. John Ramsay Trevena received his certificate of proficiency on the 14th September 1950 and his Amateur Station Licence number 8485 on the 25th September. His call sign was VK3AZX (Able Zebra Xray) which we hope to hand on to another HAM who regarded my father as a mentor.

If you could mention his name in your magazine I would be grateful.

Kind Regards, Rhonda Lawrence
r.lawrence@thrifty.com.au

# Gridsquare Standings at 30 August 2002

## 144 MHz Terrestrial

| | | |
|---|---|---|
| VK2FLR | Mike | 73 |
| VK2ZAB | Gordon | 70 |
| VK2KU | Guy | 63 |
| VK3BRZ | Chas | 62 |
| VK2DVZ | Ross | 59 |
| VK3EK | Rob | 57 |
| VK3TMP | Max | 53 |
| VK3BDL | Mike | 50 |
| VK3CY | Des | 50 |
| VK3XLD | David | 49 |
| VK3ZLS | Les | 49 |
| VK3FMD | Charlie | 48 |
| VK2EI | Neil | 46 |
| VK2MP | Rej | 45 |
| VK3WRE | Ralph | 44 |
| VK2DXE | Alan | 43 |
| VK3KAI | Peter | 43 |
| VK3BJM | Barry | 42 |
| VK3CAT | Tony | 39 |
| VK3KEG | Trevor | 39 |
| VK7MO | Rex | 31 |
| VK4KZR | Rod | 29 |
| VK4TZL | Glenn | 28 |
| VK6HK | Don | 28 |
| VK3KME | Chris | 22 |
| VK4DFE | Chris | 21 |
| VK2TG | Bob | 20 |
| VK3YB | Phil | 20 |
| VK3TLW | Mark | 19 |
| VK6KZ | Wally | 19 |
| VK2TK | John | 17 |
| VK3AL | Alan | 17 |
| VK6KZ/p | Wally | 16 |
| VK3DMW | Ken | 13 |
| VK2DXE/p | Alan | 10 |
| VK3ANP | David | 10 |
| VK2LRR | Leigh | 5 |
| VK2TWO | Andrew | 5 |
| VK2CZ | David | 1 |

## 144 MHz EME

| | | |
|---|---|---|
| VK2FLR | Mike | 89 |
| VK3CY | Des | 66 |
| VK2KU | Guy | 21 |
| VK3KEG | Trevor | 4 |
| VK2DVZ | Ross | 2 |
| VK3FMD | Charlie | 2 |
| VK7MO | Rex | 1 |

## 432 MHz

| | | |
|---|---|---|
| VK2ZAB | Gordon | 47 |
| VK3BRZ | Chas | 45 |
| VK3XLD | David | 43 |
| VK3FMD | Charlie | 38 |
| VK3ZLS | Les | 36 |
| VK3EK | Rob | 32 |
| VK2KU | Guy | 29 |
| VK3BJM | Barry | 29 |
| VK2DVZ | Ross | 27 |
| VK3BDL | Mike | 26 |
| VK3KAI | Peter | 25 |
| VK3TMP | Max | 25 |
| VK3WRE | Ralph | 24 |
| VK3CY | Des | 23 |
| VK2MP | Rej | 22 |
| VK3KEG | Trevor | 21 |
| VK3CAT | Tony | 14 |
| VK4KZR | Rod | 14 |
| VK7MO | Rex | 14 |
| VK3TLW | Mark | 13 |
| VK6KZ | Wally | 12 |
| VK2TK | John | 11 |
| VK3AL | Alan | 10 |
| VK3ANP | David | 10 |
| VK2TG | Bob | 8 |
| VK3KME | Chris | 8 |
| VK3YB | Phil | 8 |
| VK6KZ/p | Wally | 8 |
| VK2FLR | Mike | 5 |
| VK4TZL | Glenn | 5 |
| VK2CZ | David | 3 |
| VK2TWO | Andrew | 3 |
| VK4DFE | Chris | 3 |
| VK2DXE/p | Alan | 2 |
| VK3DMW | Ken | 1 |

## 1296 MHz

| | | |
|---|---|---|
| VK3XLD | David | 29 |
| VK3BRZ | Chas | 27 |
| VK2ZAB | Gordon | 25 |
| VK3FMD | Charlie | 23 |
| VK3ZLS | Les | 23 |
| VK2KU | Guy | 19 |
| VK3EK | Rob | 19 |
| VK3KWA | John | 19 |
| VK3WRE | Ralph | 16 |
| VK3KAI | Peter | 14 |
| VK2DVZ | Ross | 13 |
| VK3BDL | Mike | 12 |
| VK3BJM | Barry | 12 |
| VK3TMP | Max | 11 |
| VK4KZR | Rod | 9 |
| VK7MO | Rex | 9 |
| VK2TK | John | 8 |
| VK3TLW | Mark | 8 |
| VK3AL | Alan | 7 |
| VK6KZ/p | Wally | 5 |
| VK2MP | Rej | 4 |
| VK6KZ | Wally | 4 |
| VK3KEG | Trevor | 3 |
| VK3YB | Phil | 3 |
| VK2DXE/p | Alan | 2 |
| VK3BVP | Shane | 2 |
| VK3CY | Des | 2 |
| VK2CZ | David | 1 |
| VK3DMW | Ken | 1 |
| VK4TZL | Glenn | 1 |

## 2.4 GHz

| | | |
|---|---|---|
| VK3WRE | Ralph | 8 |
| VK3KAI | Peter | 7 |
| VK3EK | Rob | 4 |
| VK3FMD | Charlie | 4 |
| VK6KZ | Wally | 4 |
| VK3BJM | Barry | 3 |
| VK4KZR | Rod | 2 |
| VK3TLW | Mark | 1 |
| VK4TZL | Glenn | 1 |

## 3.4 GHz

| | | |
|---|---|---|
| VK3KAI | Peter | 4 |
| VK6KZ | Wally | 4 |
| VK3EK | Rob | 3 |
| VK3FMD | Charlie | 3 |
| VK3WRE | Ralph | 3 |

## 5.7 GHz

| | | |
|---|---|---|
| VK3FMD | Charlie | 7 |
| VK3WRE | Ralph | 7 |
| VK3KAI | Peter | 5 |
| VK6KZ | Wally | 4 |
| VK3BJM | Barry | 2 |
| VK3XLD | David | 2 |
| VK6BHT | Neil | 2 |

## 10 GHz

| | | |
|---|---|---|
| VK6BHT | Neil | 9 |
| VK3FMD | Charlie | 6 |
| VK6KZ | Wally | 5 |
| VK3EK | Rob | 4 |
| VK3KAI | Peter | 4 |
| VK3WRE | Ralph | 4 |
| VK3XLD | David | 4 |
| VK2EI | Neil | 2 |
| VK3BJM | Barry | 2 |
| VK3TLW | Mark | 1 |

## 24 GHz

| | | |
|---|---|---|
| VK6BHT | Neil | 3 |
| VK2EI | Neil | 2 |
| VK6KZ | Wally | 2 |

Additions, updates and requests for the guidelines to Guy VK2KU, vk2ku@hermes.net.au, or by mail (QTHR 2002).

Next update of this table will be in mid November 2002.

Stations who do not confirm their status for more than 12 months may be dropped from the table.

# VK1 Notes

## Forward Bias

Peter Kloppenburg VK1CPK

A sign of the rapid development in the technical equipment available to the Radio Amateur community is the speed at which it gets rid of outdated computers, transceivers, components from the junk box, and literature pertaining to the hobby. This was very evident at the Trash & Treasure sale that was held on Monday, August 26, '02 at the Scout Hall in Longerenong Street, Farrer.

On sale were two-year old computers, complete VHF repeaters, 12-volt power supplies, and junkboxes full of parts. There were enough parts available to build several transmitters and receivers. For a few dollars, you could buy books on programming and hand-held calculators of the types that are still on sale in the bookshops. Many almost new, C-Band oscillators, wave guides, and associated test gear was also on sale. Some of the merchandise not sold that evening was offered free to anyone wanting to take it away.

Just a reminder (1) that the One-Tech '02 symposium is scheduled for Sunday, November 17, '02. Entrance fee is $20 with free lunch. Check for further details on the ACT Website as they develop.

Another reminder (2) is the Extraordinary meeting that is being held on November 25, 2002. Several changes to the Objects and Rules (O & R) are proposed by the Committee affecting the numbers that make up a quorum, and the use of the Internet for notifying members about Annual General Meetings and Extra-Ordinary Meetings. We urge every member to attend this meeting in person, as a quorum of 30 is required to pass any motion. Every member will receive a letter announcing this special meeting, together with a copy of the proposed changes to the O & R. Also enclosed will be a proxy voting form that can be used by any member unable to attend.

Reminding again (3), Tony Bennett VK1BT is continuing with the open-house sessions being held at the hamshack in Longerenong St, Farrer on alternate Tuesdays.

The next general meeting will be held on Monday, October 28, 2002 at the Scout Hall, Longerenong St., Farrer, at 8.00 pm. Cheers. Peter (VK1CPK)

# VK6 Notes

Welcome to the return of this column to the magazine. I hope to, over the coming months, put Western Australia back on the map regarding Amateur and WIA activities. I was the youngest Secretary of a WIA affiliated Radio Club, the Redlands Radio and Electronics Society (VK4), way back in 1979. It has been a long time between jobs!

## Newswest Joins the Digital Age

We have just purchased two state of the art Sony Minidisk recorders, one portable and one for the studio. These items have replaced some very tired analogue equipment that is no longer economical to repair. Listeners to Newswest broadcasts every Sunday will soon enjoy a new level of audio quality. Many thanks to Tony Savory, VK6TS, for his research and manufacture of cables to introduce this new equipment to the WIA broadcast station.

## Public Liability Insurance Rears its Ugly Head

The Northern Corridor Radio Group submitted a letter to the WIA regarding public liability insurance. They have to relocate their clubrooms due to the sale of Carine TAFE. Nobody would take them on if they could not provide a public liability insurance cover of at least $10 Million Dollars. The WIA agreed to upgrade their insurance cover to match this amount as it has become the norm since the events of September 11. Insurance cover had not been upgraded since 1991, so this improvement seems realistic in our current litigious climate. We look forward to the NCRG moving their activities seamlessly to their new location.

The new insurance details will benefit all clubs that are affiliated with the WIA.

## Problems Administering Examinations

Trevor, VK6HTW, outlined problems in administering the Exam service. An exam paper was received with the answers already circled! A Morse tape also contained background Morse signals. Thankfully emergency copies were available to rectify the situation. The cost of exams was also discussed. Do the charges incurred reflect the true cost of administering the exam service? Further investigations will be pursued with WIA Federal to find an answer to this question.

If anyone has any items of interest for inclusion in this column could they please contact me via Email: bear42@bigpond.com or Packet: vk6tnc@vk6bbs.#PER.#WA.AUS.OC

# VK7 News

The Divisional Council has been trying something new during September – A Council meeting by email !. When all is done the results will be assessed, any complaints sorted out, and VK7 may be on the way to setting up another cost cutting measure with no more travel allowances or room hire. It will give the councillors more time to think through any decisions as well. The meeting is running over a few days and if successful will again show that rather than detract from our hobby the internet can be a great tool on the administrative side of Amateur radio

JOTA will soon be upon us and we are hoping for good co-operation between AR and the Scouts and Guides. Some of our groups are working to include IRLP contacts this year.

Our Central Highlands Amateur Radio Group, (CHARCoT) is hoping that the inaugural "Wadda Cup" catches the imagination of all VK Amateurs. Designed as an 80 metre dash running for half an hour from 0900UTC on the 28th November, among other advantages it will give participants, will be the chance to accumulate contacts for the "Tassie Trout Award" and our long running "Devil Award". Wadda is short for Waddamana – the first central highlands hydro power station, now decommissioned.

Our Southern Branch's plans to have their September meeting atop Mt. Wellington went awry when that weatherman up top decided it was a no-go at 4000 feet. The meeting, to visit the new high power analogue and digital transmitting facility up on top is re-scheduled for the October meeting. We will now all keep everything crossed.

**Cheers for now Ron, VK7RN.**

# VK2 Notes

**by Pat Leeper VK2JPA**

We welcome three new members this month. They are Stanley Clark VK2AYI, Patrick Sharples VK2IOW and Peter Collen VK2ZEE. We hope they have many happy years in the hobby.

The NSW Divisional Council held its monthly meeting by invitation at the Westlakes Amateur Radio Club premises on Friday 13th September.

Prior to the meeting, the VK2 President, Terry Davies VK2KDK was shown around the QSL Bureau (which is run by Westlakes) by Alex Efimov VK2ZM, the QSL Manager.

Westlakes members provided refreshments before the meeting which were very welcome and appreciated by, the councilors who had come from Sydney and the Tamworth area.

The meeting was held in the club library where Geoff McGrorey-Clark, VK2EO, as Westlakes President, welcomed Terry with a joke.

The council conducted its normal business while Westlakes members looked on. The club members were free to ask questions during the meeting.

Two councilors were unable to attend on the night. These were John Turner, VK2WRT, who was ill, and Chris Minahan VK2EJ who had work commitments preventing him travelling to Teralba.

It was decided at the meeting to hold the Conference of Affiliated Clubs on the morning of Saturday 30th November, with the Divisional Christmas Party following in the afternoon. So mark that date in your diary for a get-together with the council and friends on that day.

The last Trash & Treasure for the year will be held on 24th November, followed as usual by the Home Brew Group meeting.

The last examinations for the year will be held on 1st of December. Applications are due on Thursday 21st November.

The office will close for the holidays on 20th December.

If you know of anyone needing help to pass the examinations, please note that the Parramatta office is open Monday nights, 7-9 pm, with Terry VK2UX, the Divisional Education Officer, in attendance to offer help with any problem with theory. Terry is only too happy to assist anyone having difficulty with their studies.

That's all for this month. CU next time.

## VK2 Morse Training Transmission

Readers may be aware that the previous VK2RCW morse training transmission was transferred to the NSW Division earlier this year and has been operating on 2 metres.

The 80 metre portion of this service has now resumed operation on the original frequency of 3699 kHz — in conjunction with the outlet on 2 metres, 145.650 MHz.

The 80 metre service has about 25 watts to a dipole antenna. Coverage reports are most welcome. We would also like to hear from those using the service to learn morse code. Reports to the Parramatta office.

**Have you heard this week's Divisional Broadcast?**

**See page 56 for times and frequencies**

# VK4 Notes

## Qnews

From Alistair Elrick VK4MV

### Cycle Queensland

WICEN operated a secure network for a total of 69.6 hrs over 8 days during the recent bike ride from Bundaberg to Brisbane. Traffic from stations was logged every 2 to 5 minutes during this time.

WICEN operators were on comms from 0500 through 2000 hrs most days, a total of 21 operators assisted for a total of 656 operator hours.

Mostly VHF repeater comms were used, including the group's portable repeater and Cross band VHF/UHF. UHF and HF were used at various times. APRS was used to track the Water truck and the SAG wagon and worked well when these vehicles were in simplex range of either base or other monitoring stations.

Four road incidents required ambulance attendance for transport to a local hospital. All incidents were bike-to-bike or individual bike incidents.

As the conscripted WICEN organiser for this event Ed VK4JEN thanks all operators who helped make this event the success it was in terms of communications. This exercise has indicated that WICEN can sustain long term emergency comms.

### QLD QSL Bureau comes unstuck

WIAQ Council has decided that QSL stickers will no longer be sold. Stickers already purchased by members will be honoured but an account will now be required.

New members to the Institute will be credited $2.50 at both the Inwards and Outwards QSL Bureau, so can receive QSL cards initially without contacting the bureau. The Inwards Bureau processed about 8000 cards in August.

### Curly Winds not far way

It's coming up to Curly Wind (Cyclone) season in tropical North Queensland, so it's time for all Amateur radio stations in the North to check out home and portable equipment to ensure that the transceivers, antennae, batteries and charging systems are in top condition. These items may be called upon to help out the general community during the cyclone season and need to be reliable to be of use.

### Secretary in Print

The Brisbane Amateur Radio Club has a very interesting Secretary. His name is Peter Holtham VK4COG. Peter has had an article published in the August edition of Silicon Chip.

The article is called "The How, When, Where and Why of a Tantalum Capacitor". So, if you wish to find out about the mining for Tantalum in Western Australia it is suggested that you read this very interesting article.

### Cable from the Gold Coast

On October 31 the club will be putting on a display at Southport High, assisting the organisers in the centenary celebrations of the laying of the first cable from the USA across the Pacific to Main Beach on the Gold Coast.

Then look forward to November 9 to the Gold Coast Hamfest, at Albert Waterways Hall, Broadbeach. Outdoor tables and car boot selling with lots of bargains. Open to the public at 9 am.

The organisation committee invites you to participate in this event by displaying and/or selling your goods and equipment or just promoting your club and hobby interest. Alternatively, support the valuable community work done by the Club; give your pre-loved old stuff a new home by donating any old or end of line stock to the Club.

If you wish to reserve a table on the day, please contact Susan or Bob on (07) 5545 0955 or Email bob.tomkins@bigpond.com

### Dedication to the cause

Maryborough Amateur Radio Club held its AGM on Tuesday 03/09/02. The entire Executive was elected to the same positions as last year, with NO changes. That puts Col Paton VK4BCP up for his 30th year as Secretary, now that IS a love of the hobby! Well done Col.


**Cable and Connectors**

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- RG213/U Belden 8267 @ $4.45 per metre
- RG8/U Belden 9913 Low Loss @ $5.15 per metre
- RG8/U Belden 9913F7 High Flex Low Loss @ $5.55 per metre
- RG8/U - RF400 Belden 7810 Low Loss Sweep Tested to 6000MHz @ $6.30 per metre

LINK

- RG58: B80-006 UHF connector (M) @ $7.65 each
- RG8/213: B80-001 UHF connector (M) @ $8.80 each
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AMSAT

Bill Magnusson VK3JT

# Alternatives to AZ/EL Tracking Systems

**You often hear people complain that the satellite game is too expensive to get into because of the need for AZ/EL tracking antennas.**

Now it's true that if you want the very best results under all circumstances then a good AZ/EL tracking system is a must. Good rotator systems can cost the best part of $2000 when you add the tracking hardware and computer software for full auto-track. It turns into an expensive exercise. Most folk justify this by acknowledging that the gear is robust and has a long working life – and – by sneaking up on it a bit at a time, grabbing an item here and there, you can spread the cost out. My rotator was purchased at a hamfest. I built my first tracker from a well-known circuit board design, you didn't even need a computer.

But, no matter which way you look at it, the whole exercise can be rather daunting for the newcomer. There are alternatives. On our mountain-topping expeditions we used a number of "el-cheapo" tracking systems. The first was a high gain co-linear dipole array that could be tilted over at an angle that followed the satellite's path across the sky. This is only suitable for LEO satellites although I can remember using it occasionally for perigee passes of AO-10. The "main-lobe" of the antenna is disc shaped centred around the axis of the dipoles and provided you get the tilt angle right, the satellite will go across the sky always in the best part of the main lobe.

In practice we used 4 dipoles, end-to-end and fed in phase at 145 MHz, all attached to a long wooden pole. The pole was mounted vertically to begin with and held up by a simple "A" framework that would allow it to be tilted over to match the maximum elevation of that particular satellite pass. No rotators at all - and it worked well. Some time later, this time from my backyard, we used a tiltable mast and ONE rotator (an old channel-master TV rotor) to do a better job. Once again if you tilted the mast over to the maximum elevation of the satellite, this system allowed several light yagis to be turned to follow the LEO satellite across the sky. A vast improvement and still no need for expensive AZ/EL rotators. The mast was actually 2 masts, one guyed and standing on the ground and the other slightly longer and hinged to the top of the first mast. The bottom of the tiltable mast could be swung out to the maximum elevation of that particular pass. The TV rotor was fixed to the top of the tilt-able mast and it would allow the antennas to follow the satellite across the sky. Neither of these schemes was particularly high-tech but they were inexpensive and they worked.

**My rotator was purchased at a hamfest. I built my first tracker from a well-known circuit board design, you didn't even need a computer.**

There's nothing haphazard about the theory behind these ideas. All antennas have an effective "beamwidth", whether they be yagis or phased arrays. Apart from very high gain designs they are usually quite forgiving of small pointing errors. Both these systems allow the satellite to be in the main lobe of the antenna for pretty well all of each pass. We regularly worked AO-6, AO-7 and AO-8 from horizon to horizon using these antennas. A vast improvement from a fixed antenna of any sort.

Such systems would work just as well today. So if a full auto-track AZ/EL system is too daunting or too expensive, there are alternatives. Get out the books and go to it. Remember too that when the high-orbit birds, AO-10 and AO-40 are out there, near apogee and squints are good. You don't need to auto-track at all. A tripod mounted antenna system can be made with more than enough gain to do the job and at apogee the satellite is nearly stationary in the sky for long periods. My standard antenna systems for AO-10, AO-13, and Arsene were all tripod mounted in the backyard and aimed by hand.

## The AMSAT group in Australia

The National Co-ordinator of AMSAT-VK is Graham Ratcliff VK5AGR. No formal application is necessary for membership and no membership fees apply. Graham maintains an email mailing list for breaking news and such things as software releases. Members use the AMSAT-Australia HF net as a forum.

## AMSAT-Australia HF net

The net meets formally on the second Sunday evening of the month. In winter (end of March until the end of October) the net meets on 3.685 MHz at 1000utc with early check-ins at 0945utc. In summer (end of October until end of March) the net meets on 7.068 MHz at 0900utc with early check-ins at 0845utc. All communication regarding AMSAT-Australia matters can be addressed to:

AMSAT-VK,
GPO Box 2141, Adelaide, SA. 5001.
Graham's email address is:
vk5agr@amsat.org

# AO-40

Still undergoing commissioning. AO-40 is providing excellent DX contacts using L/S and U/S modes. Many reports come to hand of people using very small portable gear. It's turning into a 'rare-DX' satellite with many DX-peditions appearing from exotic countries and IOTAs and grid squares. A very effective L/S antenna system can be made small enough to be carried in a suitcase and mounted on a tripod. For the more adventurous, AO-40 mode-L/S is the way to go.

# ARISS Installation nears completion

**The last two of four Amateur Radio antennas on the International Space Station have been installed.**

On August 26th, two crew members attached the final two VHF-UHF flexible-tape antennas to the ISS Service Module. Installation of the new ARISS antennas on the crew's living quarters makes possible two separate ham stations aboard the orbiting outpost, one for VHF operation, the other for UHF (70 cm).

The first two antennas were installed during January space walks. Frank Bauer, the ARISS Chairman, continues the story, "There are now 4 antennas on ISS. Each of these antennas supports multi-band operation. Actually 3 of the 4 antennas are identical. Each of these antennas can support 2 metre, 70 cm, L band, and S band transmit and receive. On the fourth antenna, the 2 metre/70 cm whip is replaced with a 2.5 metre long whip (vertical). This antenna will support HF operations, particularly 10 meters".

Frank continues, "Right now we could support 70 cm operation using the Ericsson radio. We are still waiting for the Russians to certify the use of this equipment with the new antennas. In the near future we will have a dual-band 2 metre/70 cm radio along with the 70 cm radio. When these two systems are installed, we will hook one up to each of the two downward facing antennas. For a while, each radio system will use a separate antenna system. When we add additional equipment, we will evaluate the antenna uses. For now, we don't have any L band or S band equipment under development, but several ideas are in the works. Eventually HF operations will use the WA4 antenna". The Russians provided the feed-through devices. The US team did the hardware integration and certification. The Italian team, U.S. team and Russian team all developed portions of the hardware". Many thanks to ANS and ARRL for the above information.

**Signals are strong but if you are seeking a voice contact...consult the web site for ...times the crew are available for chatting on the amateur radio. They have a very busy daily schedule and will normally only be on the air during their recreation time.**

More complete details may be obtained by downloading a paper entitled "2001: an Amateur Radio Space Odyssey on the International Space Station". This paper details the development of ARISS and discusses the four ARISS antennas. It is available via:

http://ariss.gsfc.nasa.gov/EVAs/amsat01.pdf

During the past month or so voice contacts have been made with Valery Korzun and Sergei Treschev. Packet activity has also resumed. Signals are strong but if you are seeking a voice contact be sure to consult the web site below for information regarding the times that the crew are available for chatting on the amateur radio. They have a very busy daily schedule and will normally only be on the air during their recreation time. The ISS daily crew schedule can be found at:

http://spaceflight.nasa.gov/station/timelines/

## TechSat-1

There is no sign of BBS activity from this bird at the time of writing. It is still transmitting telemetry bursts and no further news is to hand regarding when the BBS will be open for amateur use.

## UO-22

The overall amount of packet radio sat-gate traffic has slowed due in part to 'telnet-ing' and other Internet related activities impinging on the terrestrial packet radio system. As a result more and more BBS traffic is appearing on UO-22. It is often reminiscent of the early days to see the amount of personal mail and general broadcast messages, pictures and technical data flowing via this reliable old bird – and you don't need a phone line to do it.

## UO-46

This 38k4 satellite has been in "on-again-off-again" mode lately. It will be working perfectly with lots of pictures to download, 100% efficiency - and then suddenly it won't respond to turn-on commands. The down periods usually last a few days.

## PCSat

A recent bout of ill health forced me to drop my controller duties for this bird. The control team members are still managing to keep it 'afloat' for APRS use by travelers and others. PCSat may be coming to the end of its useful life but it has paved the way to a whole new area of activity for amateur radio satellites. It's a pretty safe bet that most new birds will fly APRS digipeating hardware.

ar

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## How's DX?

**Ross Christie VK3WAC**
19 Browns Road, Montrose 3765, Vic.
Email Vk3wac@aol.com

# Climbing Amateur Radio

**Not much happening DX wise at my QTH these past few weeks, how about at yours? 160 m has been a bit quiet (noisy QRM/QRN wise as usual) here with little to report. The 10 m band is beginning to pick up into central Europe in the early evening with signals peaking at around 559 to 569, hopefully propagation will improve further. The Northern hemisphere has had quite a good summer DX wise so perhaps we can look forward to the same.**

A couple of interesting notes. Firstly, Amateur Radio has just been put on the map, literally. Vladimir, EY8HB, and a couple of other climbers (non hams) have been granted official permission to name a previously unscaled 5879 metre high mountain peak after the hobby of Amateur Radio. Vladimir and his friends installed a solar powered radio beacon on the summit of 'Amateur Radio Peak' to provide a fitting and lasting acknowledgement of the occasion. The beacon, EY1ARP/B, transmits on 28107.5 kHz and radiates less than 1 watt. No details were given on the type of antenna used. The QRP power level is due to the very limited amount of energy provided by the solar cells. The current state of 10 metre propagation should ensure the beacon signal is heard over a considerable area. If you manage to hear it here in VK please drop Vladimir a QSL card via the bureau to let him know just how far it reached.

And secondly, an oceanographic research buoy is about to be released from the Argentinian vessel Balizador to drift with the ocean currents and provide scientists with speed, direction and weather information. The buoy will also carry an interactive beacon that will send position, weather and temperature information to hams. The beacon will operate on 14026 then 28192.5 kHz in a 15 minute cycle, the format of the message will be approx. as follows "VVV LU0ARC/MM LU0ARC/MM 21/08/02 1537 UTC 35.08 S 0 57.02 W 13.7 V LIGHT 098 TC 28.0 TW 20." Carlos, LU5DZB, is looking for signal reports. These can be forwarded to Carlos at cuchin@speedy.com.ar.

So there you are, even if the DX is not up to specification you can exercise your ears and receivers by participating in collecting some oceanographic data. You never know you may be helping to explain and alleviate the effects of El Nino and La Nina induced droughts!

# The DX

**4S, SRI LANKA**. Denver, 4S7DA, says that there is a new operator on air from Sri Lanka. His name is Ranjith and his callsign is 4S7KM and his preferred mode is CW on 20 and 15 metres. Apparently Ranjith has been very active lately so listen out for him on 20 metres around 1030 and 1430 UTC. QSL via the bureau or direct to Ranjith Peiris, 4S7KM, 37/6, Chapel Road, Nugegoda, Sri Lanka. [TNX 4S7DA and OPDX/KB8NW]

**5T, MAURITANIA**. Nicolas Sinieokoff, 5T5SN, is active again from Nouakchott, Mauritania. QSL direct to Giorgio Tabilio, IZ1BZV, P.O. Box 95, 19100 La Spezia - SP, Italy. [TNX IZ1BZV and 425 DX News]

**5W, SAMOA**. Bill, W7TVF (5W0VF) is heading back to Apia, Samoa (OC-097). He should arrive there around the 18th of Nov and stay until the 9th of Dec. Bill hopes to be active on all HF bands and 6 metres with a beacon running on 50.104 MHz. He will attempt some RTTY and PSK31. If you need 5W on a particular band or mode you can try and arrange a sched with Bill via Email at bill.w7tvf@air-internet.com [TNX W7TVF and The Daily DX]

**5Z, KENYA**. Alex, PA3DZN, has been posted to Kenya by UNICEF on a new assignment. He says he will be there for 2 to 3 years and has been issued the callsign 5Z4DZ which he says he hopes to put to good use. QSL via Alex van Hengel, PA1AW, De Manning 15, 2995AE Heerjansdam, The Netherlands. [TNX PA3DZN and The Daily DX]

**9H, MALTA**. Gerd, DJ4KW and Gisela, DK9GG are planning to operate from Gozo (EU-023) from the 26th of Sept until the 8th of Oct. They will be using CW and digital modes. [TNX DJ4KW and 425 DX News]

**FH, FRANCE**. Bernie, F6BLK, will be on air as TO8MZ from Mayotte (AF-027) between the 30th of Sept and the 9th of Oct. Modes will be mainly CW and some SSB. QSL via F6BLK either direct or via the bureau. [TNX F6BLK and 425 DX News]

**GJ, JERSEY**. Chris, G0WFH, says he will be signing as GJ0WFH/p from Jersey beginning on the 5th and finishing on the 12th of Oct. He is planning on operating portable QRP on all bands 160 -10 metres, SSB only. Chris says that he will be using a kite supported antenna and is looking forward to some breezy days. Look for him on the HF bands during the daytime and especially on the lower frequencies late at night. QSL via G0DBX. [TNX G0WFH and OPDX/KB8NW]

**KC4, ANTARCTICA**. Mike Fokin, RW1AI, will operate as KC4/N2TA from 'East Camp', this is the US area co-sited with the Russian 'Vostok' station. He will be operating CW on all HF bands from 40 – 10 metres over a period of 5 months beginning late August. QSL cards will be processed when Mike arrives home early next year so don't

expect a card in a hurry. QSL direct only to P.O. Box 392, Brooklyn, NY 11230, USA. [TNX UA1AKE and 425 DX News]

**LU, ARGENTINA**. Mariano, LU4EJ plans to be active as LU4EJ/D from Ariadna Island (SA-021) from the 4th until the 6th of Oct. He is planning to use spot frequencies on or around 3680, 7080, 14260, 14200, 21260, 21300, 28460, 28560 and 50110 kHz. QSL via LU4EJ. [TNX LU4EJ and 425 DX News]

**TK, CORSICA**. Vasek, DL4F, says that he will be on Corsica from the 8th of Sept until the 4th of Oct. He hopes to operate on all HF bands 160 – 10 metres using CW and SSB using the callsign TK/DL4FF. QSL via DL4FF either direct or via the bureau. [TNX DL4FF and 425 DX News]

**TP, FRANCE**. Francis, F6FQK, says that next activity of the Radio Club of the Council of Europe (TP2CE) is scheduled for the weekend of the 19th and 20th of Oct using the callsign TP3CE during the JARTS WW RTTY contest. [TNX F6FQK and 425 DX News]

**TY, BENIN**. Pat, I8QLS, Piero, W1NA/I8CZW and Gino, I8ULL, will all be active from Benin between the 19th until the 28th of Oct. They will all participate as single operator/single band stations during the contest (I8QLS using the call TY2LS will be on 10m, W1NA on 15m and I8ULL on 20m). Prior to the contest they will operate on the low HF bands, WARC bands and 6 metres mainly using CW. Their QSL manager is Cirio, I8ACB. [TNX I8QLS and OPDX/KB8NW]

**V6, MICRONESIA**. A news release from The Diamond DX Club says that Nando, IT9YRE; Gaetano, IT9GAI and Claudio, I1SNW will be active as V63RE, V63GH and V63WN respectively from Nomwin Island from the 24th until the 27th of Oct, then from Etal Island from the 30th of Oct until the 4th of Nov. QSL route for the group is via IT9YRE.

**VP2, MONTSERRAT**. Geno, WA3IOU and his XYL Marlene, N3LGY, will be operating from here as VP2MEB and VP2MAB from the 14th until the 25th of Oct. The couple will be staying at the QTH of Keith, VP2MEG. QSL to their home callsigns. [TNX WA3IOU and OPDX]

**ZD8, ASCENSION ISLAND**. Jim, N6TJ, will be using the callsign ZD8Z from Ascension Island over the period of the 16th until the 29th of Oct. He will also make a serious entry in the CQ World Wide SSB DX Contest. Jim is planning for activity on 160 and 80 metres and the WARC bands using CW and SSB. QSL direct only via VE3HO. [TNX N6TJ and The Daily DX]

## Special Events

A special event station commemorating the **'14th Busan Asian Games'** has been on air since the 10th of August and will continue until the 23rd of October. The special event stations are HL14AG and DT14AG. Activity will take place on all bands 80-10 metres, including the WARC bands and VHF/UHF using SSB, CW, FM, RTTY and SSTV. Four special awards are available and further information can be found by Emailing to ds5psn@hanmail.net QSL via HL0BHQ either direct (KARL Busan Branch, P.O.Box 88, Busanjin, 614-013, Korea) or via the bureau. A series of certificates is also available for working both HL14AG, DT14AG and stations located in the 43 Asian countries participating in the games. [TNX DS5PSN, HL0BHQ and OPDX/KB8NW]

The special event station **JU840C** will be active from the 21st until the 31st of Oct to celebrate the **840th anniversary of Gengis Khan (Chinggis Khaan)** the founder of the Mongolian empire. The Mongolian Radio Sport Federation (MRSF) is organising an international DXpedition to the birthplace of Chinggis Khaan in Khentii province some 270 km from Ulaanbaatar. [TNX MRSF and OPDX/KB8NW]

**8N1OGA** will be on air on all bands 160 - 6 metres from Chichijima, Ogasawara (JD1) as a special event station celebrating the JARL's 75th anniversary. The station will be on the air from around the 18th of Sept until the end of January 2003. [TNX The Daily DX]

**6J, MEXICO. FMRE** (Federacion Mexicana de Radio Experimentadores) is celebrating its 70th anniversary and all Mexican radio amateurs have been authorised to use the special prefix 6J in lieu of XE when working DX stations. Use of this special prefix is allowed until the 31st of Dec 2002. Also, a special event station, **6F1LM**, is being activated by a group of individual amateurs and radio clubs for the remainder of the year. A specially produced QSL card will be sent to every contact they make. QSL VIA BUREAU ONLY. DO NOT send SASE's, IRCs or Green Stamps. [TNX XE1KK and OPDX/KB8NW]

DXpeditions

**KH8, AMERICAN SAMOA**. A Multi-national team of DXers is heading for American Samoa (KH8) with plans to begin operating on the 26th of Oct. The group will concentrate on Europe when propagation permits, especially on 160 m, ostensibly to give European stations a chance to log IOTA OC-077. The team is currently studying the propagation forecasts for 160 metres. They intend to activate two islands, **Tutuila Island (IOTA OC-045) and Ofu Island (IOTA OC-077)**, at the same time with three operators on each island. The two groups will be operating using CW, SSB, RTTY, PSK31 and SSTV. The dates are as follows; 29th Oct until the 8th of Nov from Tutuila Island and the 30th of Oct until the 6th of Nov from Ofu Island. The team consists of 6 operators. Glyn Jones GW0ANA, Team Leader, Doug Roberts, G0WMW, Dr. Markus Dornach, DL9RCF, Roger Mulzer, DL5RBW, David Flack, AH6HY, Thomas Steinmann, DJ6OI. Local help on KH8 will be provided by Larry Gandy, AH8LG. Check the DXpedition Web page at http://www.ukdxers.co.uk for further information.

Bengt, SM7EQL, and Ronnie, SM7DKF, will be operating as **ZK1EQL and ZK1DKF** from two of the South Cook Islands this month. Dates are as follows; **Rarotonga (IOTA OC-013)** from the 1st until the 3rd, **Mangaia Island (OC-159)** the 4th until the 11th and followed by another stint on Rarotonga on the 12th until the 14th. They are planning on using preferred spot frequencies, +/- QRM, on 7005, 10115, 14005, 18095, 21005, 28005, 14269, 18129, 21269, 24959 and 28469 kHz. Modes will be CW and SSB only. QSL via their respective home calls. [TNX SM7EQL and The daily DX]

The Kermadec DX Association has organised a DXpedition to **the Chatham Islands, ZL7**, over the period of the 17th until the 28th of October. No schedule has been issued regarding bands or times as the Dxpeditioners will be judging propagation and conditions on a day to

day basis. The callsign for the operation has been issued but is being kept secret until the activity kicks off to ward off any misuse or pirating of the call as in previous DXpeditions. The team will consist of Hiro Miyake, JF1OCQ; Reinhard Maute, DF4TD; Steve Taylor, G4EDG; Paul Rubinfield, WF5T; Bill Beyer, N2WB; Dave Anderson, KW4DA; Al Hernandez, K3VN; Murray Woodfield, ZL1CN; Wilber Knol, ZL2BSJ; Stan White, ZL2ST; Bob McQuarrie, ZL3TY and Ken Holdom, ZL4HU, who is the team Leader. There will be no on line logs, pilots and no E-qsling. The team is planning this as a ' back to basics DXpedition' and hopes to restore some of the fun and sense of achievement in having a QSO with them. [TNX ZL4HU and OPDX/KB8NW]

**A group of YL ops** namely Elizabeth, VE7YL; June, VK4SJ; Mio, JR3MVF; and Gwen, VK3DYL, have organised themselves a trip to **Nauru (OC-031)** where they will operate as **C21YL** from the 1st until the 14th of Oct. If you hear the girls on air please give them a call. The teams original choice of location was disrupted when they were informed that there was going to be a severe shortage of accommodation due to the influx of UN personnel supervising the processing of refugees in the South Pacific. QSL via VK3DYL. [TNX VK3DYL]

**3X, GUINEA**. A group of seven German operators will operate as **3XY7C** from Guinea beginning the 30th of Oct until the 13th of Nov. Plans are to operate on all bands 160 – 6 metres using CW, SSB, RTTY and PSK31 (an attempt may be made to operate SSTV). The equipment will comprise four transceivers, 2 amplifiers, a TH3 for 20/15/10, a A3WS (17/12), 2 Titanex V80E Lowband Verticals, a GP for 40/30 and another R5 Multiband GP. QSL is via DL7DF either direct or via bureau. Logs will be available during the DXpedition at http://www.qsl.net/dl7df/3x [TNX DF3CB and 425 DX News]

## Round up

**Martijn, PA3GFE**, is heading off to South America a six month combined holiday and volunteer work program. He will be taking along a FT817, HF amplifier and a multiband dipole. Martijn says he will be as active as possible, conditions and time permitting, on 40 – 10 metres SSB with some 6m activity if the band is open. He will operate as **OA/PA3GFE from Arequipa, Peru** until the 1st of January and, assuming he can obtain a temporary licence in Ecuador, he will operate there until the 31st of March. QSL via the bureau to his homecall. [TNX PA3GFE and The Daily DX]

**Peter, G3WQU/CN2PM (ex E4/G3WQU),** is currently working for the Moroccan government in the Western Sahara. He says he will be on air as much as possible during his spare time (probably the weekends) using CW and PSK31 on HF until at least mid 2004. QSL direct to Peter McKay, MINURSO, P.O. Box 80000, Laayoune, Western Sahara, Morocco. [TNX G3WQU and The Daily DX]

**Patrick, F6BLQ/9Q1A**, has been assured by the Ministry of PT&T in Kinshasa, Democratic Republic of Congo that the callsigns **9Q0AR, 9Q1YL, 9Q1MM, 9Q1KS and 9Q1A** will be re-issued for as long as they are required after the upcoming signing of the next Radiocom Regulations Decree. [TNX F6BLQ/9Q1A and The Daily DX]

The ARRL news web site recently carried a report that the **'Logbook of the World'** computer system upgrade is progressing nicely and full implementation is expected by August or September. To quote the ARRL "Both the Enterprise software and DXCC program are scheduled for implementation September 1, 2002. Implementation of the eCommerce will follow by one month. Logbook of the World is on track for initial implementation in September." This new system will satisfy those who have been advocating a quicker and cheaper alternative to the traditional 'hard copy' QSL bureaux, but I wonder just how long it will be before someone learns how to 'hack' the system and lay it open to abuse?

**Jon Rudy, DU9/N0NM**, is now in the Philippines for the LF band season. Lately, the DX cluster spots have him listed on 3505 kHz at 0915 and 1315 UTC. Apparently he has improved the radial system on his vertical antenna and erected two new antennas for reception. He says "the antenna system has 45 radials, but if the wire is too obvious it seems to disappear"! On 160 m his SWR is lowest at 1820 kHz. His operating plan is to begin operating at around 0945 UTC listening for US stations for the first hour with the occasional listen during the local evening. He also says he will rise early at 2100 UTC for European stations. Propagation into VK should be reasonable in our mid evening so have a listen for Jon on or about 1823 kHz. [TNX The Daily DX]

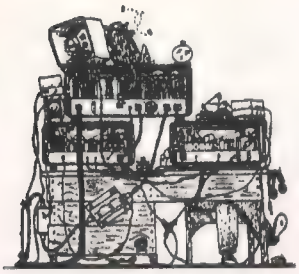
**Carl Smith, N4AA**, DX editor for QRZ DX and The DX Magazine is again readying himself for the annual **'DX Magazine 2002 Most Wanted Survey'**. The results of this survey are probably the most consulted by DXpeditioners. As Carl says "The more input received, the better the overall results will be for everyone". Please make time to visit Carl's site and complete an on-line survey form at http://www.dxpub.com/dx_survey2002.html. A complete table of results will be published in the January/February 2003 issue of The DX Magazine; also the top 100 for the world will be listed on the DX Publishing's Web page at http://www.dxpub.com/ in mid January 2003.

## Sources

Quite a mixed bag this month of DX news and information.

Thanks to the following individuals and organisations for the permission to use the information in DX Notes:

4S7DA, IZ1BZV, W7TVF, PA3DZN, DJ4KW, F6BLK, G0WFH, UA1AKE, LU4EJ, DL4FF, F6FQK, I8QLS, IT9YRE, WA3IOU, N6TJ, DS5PSN, HL0BHQ, MRSF, XE1KK, SM7EQL, ZL4HU, VK3DYL, DF3CB, PA3GFE, G3WQU, F6BLQ/9Q1A, ARRL, LU5DZB, N4AA, OPDX/KB8NW, 425 DX News, The Daily DX, ARRL, RSGB, QRZ DX and The DX Magazine.





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Part 19

# Computer Noises

**Adding a Ham Shack Computer opens new opportunities in the field of Amateur Radio – especially automation and access to the newer digital modes. However, the RF noise generated by computers can be so great that it destroys the enjoyment of the hobby. This article offers some simple tips on how to diagnose and minimise these "buzzing noises" down to a tolerable level and renew your enthusiasm in AR once more!**

Listening on any HF Amateur band, "buzz-saw" and other spurious noises (birdies) can usually be heard all over the spectrum. Some noises wander around slightly whilst others are wideband. Switching off the computer reveals a nice quiet band, and with the computer on, and the monitor switched off other spurious signals might be revealed. Some experiments must first be made to determine if the interference is coming from the computer, monitor, or both. In most cases you will never completely remove all the problems, but most attain levels below operating annoyance.

Computers are complex digital devices with a myriad of switching waveforms containing high levels of harmonic content. Square waves are everywhere, and in particular, monitor displays where switch-mode power supplies and high intensity line and field drive signals radiate intensely. Plastic monitor cases are useless in screening out these interfering waveforms. The object is to operate both the receiver and computer with a minimum of mutual interference. Start by listening with the receiver connected to the station dummy load and then with each antenna in turn.

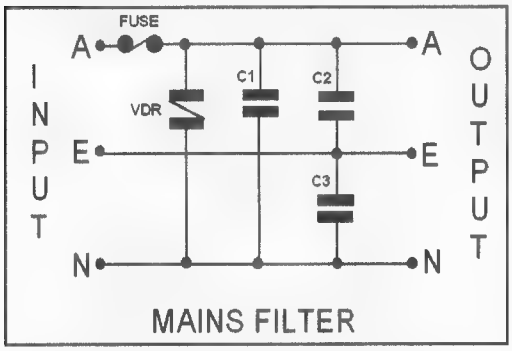
If spurious signals are evident with the dummy load, then severe problems exist, and this is where you should start first. Be prepared for some intense detective work but in the end you will succeed. The following steps can be each tried until the interference has been reduced to an acceptable level. There are no guarantees because every computer and shack installation has itsown characteristics. However, the assertive RA will win given patience and an inquiring mind.

Spend time tracking these "birdies" by drawing up a paper chart showing where they occur on the receiver dial, and whether they occur with the monitor on or off, and with which antenna etc. Once the extent is known try the following techniques in turn until the station is fully operational with the computer working normally.

1. Make sure you have installed a proper station ground connected to a copper earth rod just outside the shack. The rod should be driven into the ground to at least 1.5 metres. Use thick coax braid to connect the rod to a common terminal in the shack, and each item of equipment is linked to this one terminal. The more copper in the ground – the better the signal earth will be, and your station will perform better anyway!
2. Install an earth terminal to the computer chassis and connect to the shack earth terminal. Check for "birdies" again which should now be somewhat reduced in level.
3. Check with the monitor switched off. If problems exist in the monitor fit an earth terminal to the monitor chassis and connect with coax braid back to the station earth. This should further reduce the problems.
4. Make sure ALL your shack apparatus is connected to the common station earth with thick coax braiding covered in cheap black flexible reticulation pipe to prevent further noise by chaffing on adjacent radio equipment.
5. If the monitor suffers from severe radiation, remove the plastic case and carefully cover the inside of the case with aluminium kitchen foil. Contact adhesive dabbed on with an old paintbrush keeps the foil in place, use a second brush to push the foil into the profile of the case, but make sure that the foil is kept in one piece to maintain electrical conductivity over the whole area. Once done, drill through the case rear - fit a 3mm round head bolt, solder tag, serrated washer forming a solid earth connection. A short length of insulated black wire is added between the solder tag and the metal chassis of the monitor. Before assembly, check that the foil is clear of any circuitry and final re-assembly is safe. Once done, check for "birdies" again. You should be pleasantly surprised at the reduction of radiation, and the effort taken will be well worth the time consumed.
6. Once assembled, check the levels of the spurii again from your previous readings. Levels should be lower with some that are now well below the receiver noise floor. However, tests should now reveal antenna or mains born spurii. Connect a short length of RG58 coax to your receiver and terminate the far end with a 10-turn small loop of hook up wire. Use this "snoop loop" to move around the computer to determine where further problems are sourced.
7. Mains born radiation can be minimised by fitting clamp-on Ferrite Suppressors (DSE D5370) to the mains input cables nearest to the computer AND the monitor. Try another on the monitor VGA lead. In severe cases, DSE (D5350) Antenna Balun Toroids wound with several turns of the power cable have also proved successful. Unfortunately the power plug has to be cut off so that the cable can

be wound around the toroid to fill the center hole leaving enough cable to terminate a new power plug. If no success, fit a new cable and use the modified cable on another device until the noise source is identified.

8. One of the most successful cures for mains born interference is to fit the following filter INSIDE the case of each piece of shack equipment:



MAINS FILTER

C1, C2 and C3 are 0.01µF 3kV ceramic RF bypass capacitors (DSE R2400) and the VDR is a Metal Oxide Varistor (DSE R1802) used to clip high voltage spikes. Fuses are recommended just in case the VDR breaks down under severe conditions. The whole assembly is constructed on a 3-lug, large tag strip (DSE P4804) and mounted inside the equipment near to the mains input wiring. This modification is vital in rural and mining areas where the supply voltage varies dramatically – and is essential where the so called "double insulated" plug packs are used with two-pin, figure eight cable – and NO EARTH is common. The writer has fitted many of these devices to electronic equipment in regional areas with huge success where the devastation was rife – especially with laptop computers that "floated above earth"!

9. Laptop computers have lower radiation due to the nature of flat LCD screens. However, they still suffer from "leaky" plastic cases and may be fed with internal "double insulated" two-pin mains cables. Earthing can be a problem but can be overcome by fitting a DB9 metal backshell (Jaycar PP0800) to an unused comport connected by insulated coax braiding to firmly ground the metallic case to the station earth.
10. TNCs, test gear, low voltage power supplies, clocks and other devices should also be checked with the receiver "snoop loop" to ensure that each device and any interconnecting wiring is not adding to the overall "birdie" problem in and around your shack installation.
11. Once the suggestions offered from 1-10 have each been tried, the next area will be your antenna installation. Operators with towers, rotators and big beams installed away from the operating position will be much better off than those with long wires, verticals and roof mounted antennas. Spurious radiation from unscreened rotator cables (check the rotator manufacturers circuit diagram first to avoid error) can be minimised by fitting 0.01µF 3kV Ceramic bypass capacitors (DSE R2400). Fit the same mains filter described in 8 to the rotator power unit and ground the case by replacing the power cord with an approved 3-core cable.
12. Ensure that towers, masts, feeders catenary cables and other metal objects are all firmly grounded to prevent them from re-radiating spurious "birdies" emanating from your computer(s) and other RF devices. Make sure that any antenna tuners are also firmly grounded to the station common earth system.

By now your computer should be very quiet indeed, and you have gained the advantage of a more efficient Amateur Radio Station. However, in very difficult cases, some monitors are dreadful radiators! Try swapping monitors with a friend. Some can be very good, whilst others with "Low Radiation" clearly visible on the front panel can be pathetic and a mockery of modern EMC standards. Some of the better brands can be the worst radiators of spurii in the AR shack. Fortunately, desktop computers are still made in metal cases and can be properly earthed. Sometimes a poorly bonding case with badly fitting lids, sides and front panels may need to be "linked" with hook up wire to avoid radiation. If building your own computer, choose a high quality case with slotted sides and bonding strips. Ask your dealer for a peep at the inside of the case before purchase. If the lids and sides just screw together over painted metalwork – be very suspicious and move on to another dealer.

## Summary

Most of the common solutions to computer radiation have been covered. However, there are many more to be found in EMC Handbooks from around the world. There is no one solution, and success depends upon your own vigilance and patience in tracking down these problems. Use your own experience of RFI and TVI detection and you will eventually cure the problems forever – until you upgrade to yet another new computer, Hi

The writer has three fully operational computers ethernet linked together in the shack – all operating at once with little or no spurii on any of the HF, VHF or UHF bands. DX low level received signals are enjoyed daily. However, there are many of the suggestions from this article "hanging" around the shack wiring to achieve satisfaction. Go for it and be a "birdie detective" and enjoy the wonders of the digital age in your own quiet Ham Shack. Remember that you will not totally eliminate all the interference, but you will reduce the level to an enjoyable conclusion. Lastly, harmonics from next door's television line time-base will still be detected especially on the LF bands. Not much we can do here except make sure your antenna is placed as far away as practicable and swallow your pride!

## Ham Tip No. 19

Never build little devices like PSK31 interfaces, AF filters, ATUs, DSPs and audio processors in plastic boxes. Screen everything including speaker leads, 12-volt supply leads, electronic Morse keys and the like. If you do this, your "birdie problem" will be easier to track and cure. The DigiPan waterfall also makes a superb "birdie tracker" – just try it once and you'll never ever turn back

**Ham Shack Computers, Part 20 "DX Clusters"** – next month offers tips on integrating your computer, rig control and packet VHF station to spot and work rare DX stations with a few mouse "clicks"!

(1) Ham Shack Computers Web: http://www2.tpg.com.au/users/vk6pg

73s de Alan, VK6PG

# Contests

Ian Godsil VK3VP
contests@wia.org.au

## Contest Calendar
### October – December, 2002

| | | | | |
|---|---|---|---|---|
| Oct | 5 | 8th TARA Rumble | | |
| Oct | 5/6 | Oceania DX Contest | (SSB) | (Aug 02) |
| Oct | 6 | RSGB 21/28 MHz Contest | (SSB) | |
| Oct | 10 | Ten-Ten Intl. Day Sprint | (All) | |
| Oct | 12/13 | Oceania DX Contest | (CW) | (Aug 02) |
| Oct | 19/20 | JARTS WW RTTY Contest | (RTTY) | |
| Oct | 20 | Asia-Pacific Sprint | (CW) | |
| Oct | 20 | RSGB 21/28 MHz Contest | (CW) | |
| Oct | 26/27 | CQ WW DX Contest | (SSB) | |
| Nov | 1-7 | HA-QRP Contest | | |
| Nov | 2/3 | VHF/UHF Field Day | (CW/SSB) | (Oct 02) |
| Nov | 3 | High Speed Club Contest | | |
| Nov | 8-10 | JA International DX Contest | (SSB) | |
| Nov | 9 | Anatolian PSK31 Contest | | |
| Nov | 9/10 | WAE RTTY Contest | | |
| Nov | 9/10 | OK/OM DX Contest | (CW) | |
| Nov | 16/17 | LZ DX Contest | (CW) | |
| Nov | 16/17 | All Austrian 160 Metres DX Contest | (CW) | |
| Nov | 16/17 | RSGB 160 Metres DX Contest | (CW) | |
| Nov | 23/24 | CQ WW DX Contest | (CW) | |
| Nov | 23/24 | CQ SWL Challenge | (CW) | |
| Dec | 6-8 | ARRL 160 Metres Contest | (CW) | |
| Dec | 14/15 | ARRL 10 Metres Contest | (CW/SSB) | |
| Dec | 21 | OK DX RTTY Contest | | |
| Dec | 28 | RAC Canada Winter Contest | (CW/SSB) | |
| Dec | 28/29 | Original QRP Contest | (CW) | |
| Dec | 28/29 | Stew Perry Top Band Distance Challenge | (CW) | |

## *Greetings to all contesters and readers*

**We are all very much aware that today we live in an age where we want almost instant decisions and resolutions to questions. With this idea goes the concept of "the more the better" when it comes to equipment, or the cost thereof.**

For contesters this is showing up in the form of more antennas as number one priority, access to packet and DX spotting nets in number two slot and now, for the really enthusiastic station, more radio gear to enhance operations on the same band as the station is currently working as well as keeping an eye on the other bands for multipliers. *If you did not see my comments on this style of operation, please find a copy of last month's magazine.*

These days when it comes to publication of rules and results, it must be said that the Internet is quick and all information is readily available to everyone when posted. Not surprisingly, many people now turn to the Net for latest information about a particular contest – often via a dedicated site, or if not then via a general site, e.g. our local vkham.com contest page (http://www.vkham.com/contest/).

However nice it is to think that

everything in the garden is rosy; in practice it is not so. I have always been conscious of the fact that many operators are no longer working with lots of cash to spend on computers and radio equipment. These people rely on publications such as "Amateur Radio" to keep them informed, assisted by broadcasts from time to time, e.g. QNEWS on Sundays.

Written publications do, however, take a long time to prepare. These notes that you read now in October were submitted to the Editor at the end of August. Columnists and Editor must always be thinking in advance (quite easy to do once you get into the way of it). However, it also means that sometimes information arrives at a columnist's desk that just cannot be put into print in time. Sadly it must be left on the desk and eventually sent to the waste paper bin.

The other difficulty that sometimes arises is lack of space for certain items. I noticed that this happened to this column in July, when I had sent details of a new digital mode contest rostered for September. When the magazine arrived there were no rules for the Digimode event. Such is life and there is no need to lose sleep over it — we can always try again at a later date. I mention it only so that you, the readers, may be aware that sometimes things may seem a little out-of-date. This is where use can be made of the broadcasts and Internet to draw attention to changes or things not previously advertised. Such avenues are invaluable and, even if you do not have Internet access at home, I certainly would urge you to do so via your local Library. There are people there these days ready and willing to help us find our way around computers and the Net. No ham need miss out on news of almost any aspect of our hobby that we may be interested in.

Contesters, of course, know all this and use logging programs to assist with their contesting, as well as submitting their logs via email after the event. Computers figure large in their shacks, as they would in shacks of keen Dxers – not to mention connecting to Packet and DX Clusters, as well as radio control.

So my purpose in these notes this month is to make you aware that it is not always easy to keep right up with the latest as far as a print medium is concerned, but using the Internet does make things easier. Whichever way you choose, please do keep up your interest and participation in contesting.

You will note that this month is Oceania DX month. By the time you read this the contest will be over, but I hope that you were not afraid – you jumped in and "had a go"! Now all you have to do is send in your log!

**73 and good contesting, Ian Godsil VK3VP**

## Results Of Pacific 160 Metres Contest 2002

**Section: MIXED**

| Place | Callsign | Score |
|---|---|---|
| 1st | ZL2AS* | 712 |
| 2nd | ZL2RX | 531 |
| 3rd | ZL3TY | 410 |
| 4th | VK3APC/P | 204 |
| 5th | ZL2AJB | 165 |
| 6th | VK3DBQ | 24 |

ZL2s CF, LF, DW

**Section: PHONE**

| Place | Callsign | Score |
|---|---|---|
| 1st | VK3BF/VK3CKD | 371 |
| 2nd | VK3KTO | 203 |
| 3rd | VK3EK | 192 |
| 4th | VK7JGD | 88 |
| 5th | VK3JWZ | 60 |
| 6th | ZL2CD | 36 |

**Section: CW**

| Place | Callsign | Score |
|---|---|---|
| 1st | VK3IO | 1260 |
| 2nd | VK6VZ | 847 |
| 3rd | VK2AYD | 231 |
| 4th | VK3ET | 210 |
| 5th | VK8AV | 198 |
| 6th | ZL2CD | 196 |
| 7th | W7LR | 160 |
| 8th | VK3MV | 154 |
| 9th | K6SE | 45 |
| 10th | VK4TJ | 36 |
| 11th | VK3VB | 12 |

**Meet hams where you live.**

**Join your local club. Find the address in this year's WIA Callbook. Now available on serchable CD**

## Statistics:

A total of 23 logs was received, 13 of these via email.

## Comments:

Email is certainly now a popular method of submitting logs, as several were received on the Monday following the contest.

I thank all those who took part, both the regular contestants and a good showing from VK3s JWZ and KTO and VK7JGD to whom the HF bands became available recently. Thank you very much for your interest in this and other contest events.

I apologise that the points for DX QSOs were not printed in "Amateur Radio" magazine. These things do sometimes happen, but all logs were checked and corrections made where necessary.

Suggestions have been made for improving the rules for 2003, so if you have any ideas PLEASE let me know either by postal mail, or to email: vk3vp@vkham.com

Thank you again and good contesting.

**73, Ian Godsil VK3VP**

# Spring VHF-UHF Field Day 2002

From John Martin (VK3KWA), Contest Manager

*Dates: November 2 and 3, 2002.*
*Duration in all call areas other than VK6: 0100 UTC Saturday to 0100 UTC Sunday.*
*Duration in VK6 only: 0400 UTC Saturday to 0400 UTC Sunday.*

## Sections

A: Portable station, single operator, 24 hours.

B: Portable station, single operator, any 6 consecutive hours.

C: Portable station, multiple operator, 24 hours.

D: Home station, 24 hours.

Single operator stations may enter both Section A and Section B. If the winner of Section A has also entered Section B, his log will be excluded from Section B.

If two operators set up a joint station, they may enter Section C under a single callsign, or sections A/B under separate callsigns. If they enter Sections A or B, they may not claim contacts with each other. Stations with more than two operators must enter Section C.

## General Rules

One callsign per station. Operators of stations in Section C may not make contest exchanges using callsigns other than the club or group callsign. Operation may be from any location, or from more than one location. You may work stations within your own locator square.

A station is portable only if all of its equipment, including antennas, is transported to a location which is not the normal location of any amateur station.

Repeater, satellite and crossband contacts are not permitted. No contest operation is allowed below 50.150 MHz. Recognised DX calling frequencies must not be used for any contest activity. Suggested procedure is to call on 0.150 on each band, and QSY up.

**Contest Exchange:** RS (or RST) reports, a serial number, and your four digit Maidenhead locator.

**Repeat Contacts:** Stations may be worked again on each band after three hours. If the station is moved to a new location in a different locator square, repeat contacts may be made immediately. If the station moves back into the previous locator square, the three hour limit still applies to stations worked from that square.

**Scoring:** For each band, score 10 points for each locator square in which your station operates, plus 10 points for each locator square worked, plus 1 point per contact. Multiply the total by the band multiplier as follows:

| 6 m | 2 m | 70 cm | 23 cm | Higher |
|---|---|---|---|---|
| x 1 | x 3 | x 5 | x 8 | x 10 |

Then total the scores for all bands.

## Scoring Table

A cover sheet is printed separately.

This Cover Sheet and scoring table, ready to print out and fill in, may be obtained from the e-mail address given below. Otherwise please follow the following format. In this sample the operator has operated from one locator and worked four locators on each band:

| Band | Locators Activated | Locators Worked | QSOs | Multiplier | Band Total |
|---|---|---|---|---|---|
| 6 m | 10 | + 40 | + 40 | x 1 | = 90 |
| 2 m | 10 | + 40 | + 30 | x 3 | = 240 |
| 70 cm | 10 | + 40 | + 20 | x 5 | = 350 |
| | | | Overall Total | | = 680 |

*continued next page*

# Technical Abstract

## Blu Tack Swarf Catcher

**An interesting application for Blu Tack from EI2IH appeared in the In Practice column of Ian White G3SEK in Rad Com June 2002.**

The idea is to use a lump of Blu Tack to catch swarf when drilling a hole in an equipment panel. A large lump of Blu Tack is simply stuck on the back of the panel where the hole is to be drilled and this traps any swarf. The Blu Tack and swarf are then simply removed. A lot easier than masking and carefully vacuuming.

Other uses for Blu Tack had appeared previously in Ian's column. These were to hold nuts in inaccessible locations and to take dental impressions of components to be used in drilling a PCB. Another use was as a removeable sealant for such things as rotator cables. Apparently Blu Tack works outdoors and it is often easier to find than specialised sealants. It is not as good as a specialised sealant such as Coax-Seal but if it is to hand it may well save the day.

***It's on again!***
**AHARS**
**Buy And Sell**
***November 23rd***
**Westbourne Park**
**RSL Hall**
**Goodwood Road**
**Just South of "Big W"**
**Doors open at 9.00**
(see Club News, page 24)

## Book Review

# A radio active life

**Harry Atkinson VK6WZ has written an account of his life in country broadcasting stations and as an audiophile.**

Harry was born legally blind but he says his mother kept the fact a secret from him so he had a fairly normal upbringing. He says it took a world war to give him his first full time job in radio, which he heard of through another amateur. He went to 6GE Geraldton WA as announcer/copywriter subsequently rising to become its manager for 15 years. He then went to Albany WA to set up a new commercial broadcast station 6VA. As well as running an audio shop for ten years, he worked at stations 6KG Kalgoorlie and 6WB Katanning.

The book includes serious discussion of the early history of commercial broadcasting in WA as well as many amusing anecdotes of life in a radio station. These are written in the racy, entertaining style which typified his advertising copy. He tells of the breaking of the news of Pearl Harbour, when the station had to do an early morning ring-a-round to get an audience. Also the time an amateur was found to be jamming the nearby, secret radar station. He tells with great humour of the time the Army tried to recruit him but when he failed the eyesight test (!), gave him a pair of binoculars and made him a Coast Watcher. He also never loses sight of his amateur radio background while writing.

The book includes examples of his witty advertising copy, his program scripts and his story writing. It is, as a former radio station programme manager has commented, an entertaining read with extra significance for radio hams.

The book has been published posthumously by Harry's widow. Requests for copies should be directed to Bruce Hedland-Thomas VK6OO, QTHR or Tel. 08 9271 9529. The price is $20 posted.

ar

## Contests (continued)

**Logs**: Show each contact: UTC time, frequency, station worked, serial numbers and locator numbers exchanged, points claimed.

The front sheet should contain the names and callsigns of all operators; postal address; station location and Maidenhead locator; the section entered; the scoring table; and a signed declaration that the Contest Manager's decision will be accepted as final.

**Entries:** Paper logs may be posted to the Manager, Spring VHF-UHF Field Day, 3 Vernal Avenue, Mitcham, Vic 3132. Electronic logs can be e-mailed to jmartin@xcel.net.au. The following formats are acceptable: ASCII text; RTF, doc; XLS; MDB; or PUB. Logs must be received by Monday, November 25, 2002. Early logs will be appreciated.

ar

### SCORING TABLE

| Band | Locators Activated (10 points each) | | Locators Worked (10 points each) | | QSOs Made (1 point each) | Total | Band Multiplier | Band Total |
|---|---|---|---|---|---|---|---|---|
| 50 MHz | | + | | + | = | | x 1= | |
| 144 MHz | | + | | + | = | | x = | |
| 432 MHz | | + | | + | = | | x 5= | |
| 1296 MHz | | + | | + | = | | x 8= | |
| 2.4 GHz | | + | | + | = | | x 1= | |
| 3.4 GHz | | + | | + | = | | x 1= | |
| 5.7 GHz | | + | | + | = | | x 1= | |
| 10 GHz | | + | | + | = | | x = | |
| Higher | | + | | + | = | | x 10= | |
| | | | | | | | FINAL TOTAL= | |

### Cover Sheet WIA VHF-UHF Field Day

**Date:** ...../...../.....

**Section entered:** .....**Station callsign:** .....

A Single operator 12 hours
B Single operator 6 hours
C Multi operator 24 hours
D Home station 24 hours

*If entering more than one section, please use a separate copy of this sheet for each section.*

**Callsigns and names of all operators:**

**For Section A or B, time periods to be scored:**

*For Section A, either one 12 hour period or two 6 hour periods. For Section B, one 6 hour period only.*

**The station operated from the following grid locators:**

**Postal address for notification of results:**

I/We agree that the Contest Manager's decision will be accepted as final.

Signed: .....

Ron Smith VK4AGS

# The non-pretend universe

**In the last article I referred to the fundamental concept in amateur radio of "licence to learn". If this is so fundamental it automatically follows that various study packages, courses, etc, to help people join this quite wonderful worldwide activity should encourage this fundamental concept.**

One way this can be achieved, and at the same time increase the effectiveness of any course, is for the course to show that the electronic universe is not a pretend one, but is rather a real one.

It would be possible to fill this magazine for many years with articles referring to what is known about the learning process and what works, and what does not, with education. However, an accurate, if simple, summary would be that learning is most effective when three conditions are met. One condition is that learning for understanding is superior to learning for memorising. The second condition is that course structures should match the learning style of the students. The third condition is that learning activities should maximize the involvement of different parts of the brain.

There are many ways of achieving these three conditions in conducting a course. However, one method, which is not particularly effective, is the traditional lecture. On the other hand one very useful tool for the educator is to include as many activities which are real events in the universe. This is a non-pretend universe.

While not all courses will have access to the various items of equipment or facilities to have the real universe (hands on activities) in the course, some will. In addition if the local amateur radio educator can form a partnership with an educational institution such as a TAFE College, university, or local secondary school some more doors will open.

The list of real universe possibilities is very large. I would like to mention some which are perhaps a bit different from the usual or expected.

Not everybody would have access to signal generators but there is now software which will allow a sound card to be an audio generator. This can be used in conjunction with software, which allows a sound card to be an audio oscilloscope. To go a little further, many of the DVMs on sale have reasonable accuracy at audio frequencies.

So in addition to measuring voltage and current for resistors try it for a car tail light bulb which shows the effect of temperature. Then go further and using audio frequencies make measurements with capacitors and inductors showing ideas related to reactance and resonance.

The proverbial plug-in breadboard is useful for many circuits. One, which is a little different, is to start with the commonly available 3580 crystal and use it to show various oscillators. The oscillator can be detected using an HF rig tuned to 80 m. While crude and not best practice for transmitters you can low level AM the oscillator at a high audio frequency, say 15 kHz or even higher, and using the HF rig find the sidebands. Some scanning receivers have simple spectrumscopes, which can be used here as well. You can go further and show harmonics and distortion.

**...with partnerships, innovation, experimentation, and even fun, we can help future amateurs to learn more effectively and efficiently**

The behaviour of waves is easy if you can work with your local high school science department. Ripple tanks show many wave phenomena. The long steel springs show phase reversal or not upon reflection, speed change with refraction, and standing waves. It goes without saying that if you involve the teachers/lecturers they may well not only run this session for you but want to study themselves or encourage their students to do so.

If the secondary school has physics in the curriculum it might have a 10 GHz transmitter and receiver as well as mirrors, prisms, and lenses suitable for the 3 cm waves. So reflection, interference, and refraction are all possible. Sending the 3 cm waves over a curved metal surface, copper or aluminium preferred, a simulation of ground wave propagation is possible.

Using a bare wire strip line a few metres long, a 2 m rig at low power, and simple diode probes, standing waves in feedlines can be shown. Working again with rigs at low power on either 2 m or 10 m simple dipoles can be hung up and adjusted for length in a normal classroom or meeting room.

I could go on with others as the list is rather endless, but with partnerships, innovation, experimentation, and even fun, we can help future amateurs to learn more effectively and efficiently. I invite the brewers (electronic not the liquid type) to design simple circuits to help educators.

I would encourage our dedicated educators to develop partnerships with local educational institutions and work with them, not just use their rooms.

**nr**

**STOP PRESS**

# JOTA

**The Bass Amateur Radio IRLP Group will be using node 633 during the JOTA weekend from 9am Saturday and Sunday from the Dromana Sea Scouts Hall in Dromana Victoria**

# VHF - UHF

## AN EXPANDING WORLD

**David K Minchin VK5KK**
Postal: 10 Harvey Cres, Salisbury Heights, SA, 5109
E-mail: tecknolt@ozemail.com.au
Web page: http://members.ozemail.com.au/~tecknolt
Phone: 0403 368 066 AH only
All times are in UTC.

## 50 MHz

**Reports so far from VK and overseas seem to indicate this equinox is a slow starter for F2/TEP.**

Bevan VK4CXQ reports ....Activity Townsville on 6 metres mid Aug-mid Sept on CW. Sounds as if the band is starting to liven up just a little over the past month.

All JA districts were heard/worked except JA8 but including JD1. Some were difficult even on CW but some solid QSOs were made, 43 in total. Also worked was BG9 (again) some Koreans (south) DS and HL and KH6SX from Hawaii. KH6SX is a regular operator and his signals have been very good these last few nights. Heard him QSO FK8 a few times about a week ago. No other signals from the Pacific area nor from the north west as yet but the TV has been strong at times ...

**Bevan VK4CXQ**

## 144 MHz and above

**SSB activity is alive and well! Guy VK2 KU reports ... VK2KU SSB Log for Week ending Sunday 15 September 2002, for multiple contacts the best report is given.**

144 MHz: 400 W to 4x12 element yagis on 6m booms at 13.5m (feeder loss 1.2dB),

432 MHz: 100 W to 1x20 element Yagi on 3.7m boom at 12.9m (feeder loss 3.2dB),

1296 MHz: 10 W to 4x30 element yagis on 2.5m booms at 14.6m (feeder loss 4.7dB).

My low loss feeders are only partly installed at present.

| | | | |
|---|---|---|---|
| 144 MHz | VK1CJ | 58 58 | 212km |
| 144 MHz | VK1ZQR | 57 57 | 207km |
| 144 MHz | VK2AAS | 59 59 | 63km |
| 144 MHz | VK2DCJ | 59 59 | 18km |
| 144 MHz | VK2DVZ | 59 59 | 285km |
| 144 MHz | VK2FLR | 59 59 | 72km |
| 144 MHz | VK2FMB | 52 52 | 459km |
| 144 MHz | VK2KWM | 54 59 | 354km |
| 144 MHz | VK2MP | 58 59 | 190km |
| 144 MHz | VK2TG | 59 59 | 49km |
| 144 MHz | VK2TK | 59 59 | 7km |
| 144 MHz | VK2TQP | 52 57 | 438km |
| 144 MHz | VK2XGJ | 59 59 | 94km |
| 144 MHz | VK2ZAB | 59 59 | 66km |
| 144 MHz | VK2ZCV | 55 56 | 346km |
| 144 MHz | VK2ZRE | 56 57 | 292km |
| 144 MHz | VK3AJN | 55 59 | 487km |
| 144 MHz | VK3BWT | 54 57 | 431km |
| 144 MHz | VK3CGR | 53 53 | 568km |
| 144 MHz | VK3II | 53 53 | 689km |
| 144 MHz | VK3KAI | 54 55 | 627km |
| 144 MHz | VK4AFL | 54 54 | 739km |
| 144 MHz | VK4AML | 52 52 | 748km |
| 144 MHz | VK4ARN | 51 51 | 721km |
| 432 MHz | VK1CJ | 54 52 | 212km |
| 432 MHz | VK2DVZ | 54 55 | 285km |
| 432 MHz | VK2MP | 53 55 | 190km |
| 432 MHz | VK2TK | 59 59 | 7km |
| 432 MHz | VK2ZAB | 59 59 | 66km |
| 1296 MHz | VK2DVZ | 53 51 | 285km |

**Guy VK2KU**

## Digital DX

**Debate has been raging about the validity of digital modes when applied to the grid squares standing list as a result of new Digital modes figuring in a number of new grid square claims.**

Unfortunately, in some corners, the debate lost sight of the purpose of lists such as this. I believe that to be the promotion of activity in areas that aren't normally active on the VHF bands and the advancing of our hobby. Maybe history repeating itself ... debates like this have happened before in other areas along more traditional lines. Morse vs. Voice I believe! Not for me to take sides but move on please!

### New Caledonia

**Keep in mind the skeds with FK8CA that start on 1 October. I will give you the details again in next week's news.**

**73 Rex, VK7MO**

# FSK441 over the weekend 21/22 Sept 2002

**John VK2TK has overcome his computer soundcard problems and made his first FSK441 contact.**

Other stations on this weekend were: VK1WJ, VK2FZ, VK2FLR, VK2AWD, VK2FLR, VK2TQP (receiving), VK3KAI, VK3AEF, VK3AXH, VK5DK, VK4TZL and VK7MO.

Gavin, VK3HY and Rex, VK7MO completed what they believe to be the shortest VK FSK441 2 metre meteor scatter contact at 585 km.

Next weekend will be Type A on Saturday and Type B on Sunday on 144.230. However, in addition on the Sunday, we run, as a trial, a Type A on 144.330. Dave, VK2AWD will be on 144.330 on the Sunday and others are welcome to join - he will be looking for VK3/5 stations. The purpose is to open up options for Sydney stations now there are a number operating.

# Microwave News

## New 24 GHz World Record

**This month we have a report from the USA detailing the confirmed new world record on 24 GHz ... at 542 km, nearly 100kms further than the previous mark.**

On September 7, 2002 at 1235UTC, WW2R/5 and W5LUA made a record breaking contact on 24192 MHz. Dave was operating portable in EM41HC near Natchez, Miss and W5LUA was operating from his home in EM13QC, Allen, Texas. CW signals of 549 were exchanged.

DX based on 6 digit to 6 digit grid square is 337.3 miles or 542.8 km

The equipment at WW2R/5 consisted of a 2 ft dish fed through 2 foot of flexible waveguide by a retuned Hughes 12-18GHz TWT running 11 W output. The 1.8dB HEMT preamplifier was mounted directly on the waveguide switch. The homemade transverter fed an IC402 at 435MHz. Frequency calibration was achieved by a frequency counter locked to GPS by an HP Z3801A time/frequency standard.

Signals on 10GHz were consistently around 10dB above the noise. After the QSY to 24GHz, and overcoming the surprise of hearing anything, initial signals were estimated at around 6dB above the noise but by the end of the QSO were barely audible above the noise.

The equipment at W5LUA consisted of a 2 ft MACOM dish with azimuth and elevation control at 65ft. LNA noise figure at the dish measured 3 dB. I was using an Alelco TWT producing 50 watts in the shack. The actual power getting to the dish was considerably less. I had two 1.5 dB loss WR-42 flexible pieces of waveguide in the shack feeding about 60 ft of EW-180 waveguide with about 4 dB loss and another 1.5 dB loss WR-42 flexible jumper at the antenna. The transmit losses add up to 8.5 dB giving me about 7 watts at the feed. My azimuth rotator is an Orion 2800, which allows me to get to within tenths of a degree. I use a small actuator to give me about -1 to +16 degrees elevation control. This worked OK for horizon shots for AO-40. We first tried 10 GHz where signals were 5 to 10 dB over the noise. We made an easy contact and then QSYed to 24 GHz where I was much surprised to hear Dave about 10 to 15 dB over the noise on a nice peak. The initial peak may have been due to airplane scatter but afterwards the signals became more constant, they settled in about 10 dB over the noise for several minutes and an easy QSO resulted.

Based on 6 digit grid square to 6 digit grid square EM13QC to EM41HC DX = 337.3 miles or 542.8km.

Based on actual latitude/longtitude locations, the DX calculates to be 338.2 miles or 544.3 km establishing a new world record on 24192 MHz.

W5LUA 33 deg 6 min 53 sec North by 96 deg 36 min 54 sec West. WW2R/5 (from map) 31 deg 7 min 22 sec North by 91 deg 20 min 33 sec West.

Weather at EM41HC was 75 degrees F and 88% relative humidity with relatively clear skies with some high clouds. Weather at EM13QC was 72 degrees F and 70% relative humidity with skies partly cloudy.

Attempts to repeat the contact over the same path 12 hours after the initial QSO resulted in no signals being identifiable either way on 10GHz, suggesting the morning QSO was under enhanced tropo conditions. No signals were heard on 2 metres or 70 cm at the time of the contact. The sked was setup earlier in the week via email with no liaison on any band including cellular! Numerous attempts over a slightly shorter TX-MS path on 10GHz in July also resulted in no signals being identified.

**Submitted by W5LUA and WW2R on September 9, 2002**

## In closing

I'll leave you with this thought.. "If you spent as much time doing the things you worry about getting done as we do worrying about doing them, you wouldn't have anything to worry about!"

**73s David VK5KK**


**Want to learn more about amateur radio?**

***Education is a WIA membership service***

**Contact your Division for information**

**(see Directory on page 56)**

# HF Predictions

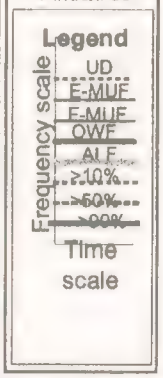
by Evan Jarman VK3ANI
34 Alandale Court Blackburn Vic 3130

These graphs show the predicted diurnal variation of key frequencies for the nominated circuits.
These frequencies as identified in the legend are:-

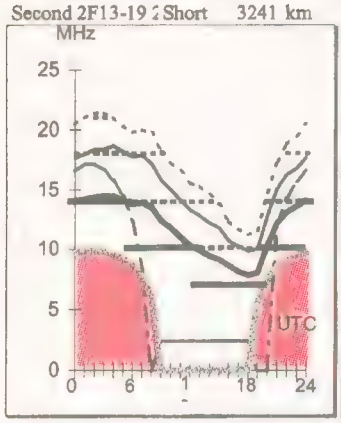
- Upper Decile (F-layer)
- F-layer Maximum Usable Frequency
- E-layer Maximum Usable Frequency
- Optimum Working Frequency (F-layer)
- Absorption Limiting Frequency (D region)

Shown hourly are the highest frequency amateur bands in ranges between these key frequencies, when usable. The path, propagation mode and Australian terminal bearing are also given for each circuit.
These predictions were made with the Ionospheric Prediction Service program: ASAPS Version 4

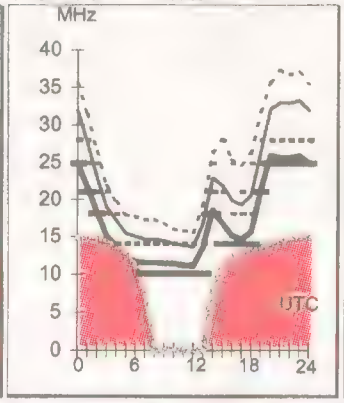
**October 2002**
T index: 88



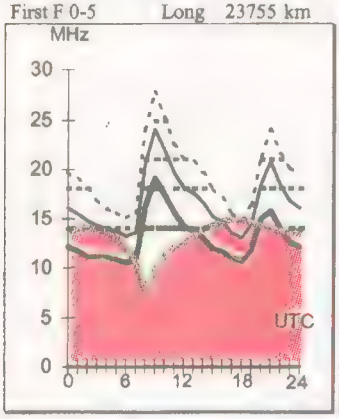

**Adelaide-Auckland** 104
Second 2F13-19 2 Short 3241 km



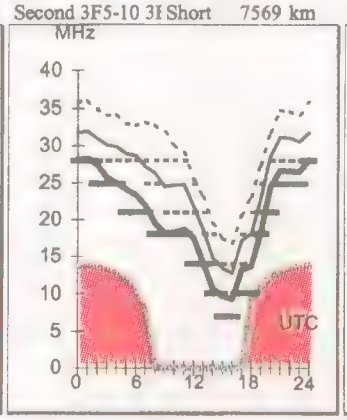

**Brisbane-Chicago** 57
First F 0-5 Short 14361 km



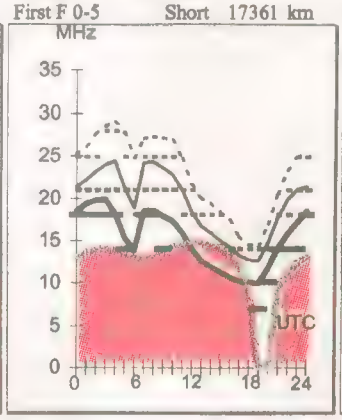

**Adelaide-London** 132
First F 0-5 Long 23755 km



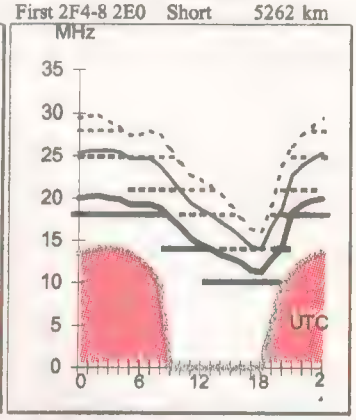

**Brisbane-Honolulu** 49
Second 3F5-10 3I Short 7569 km



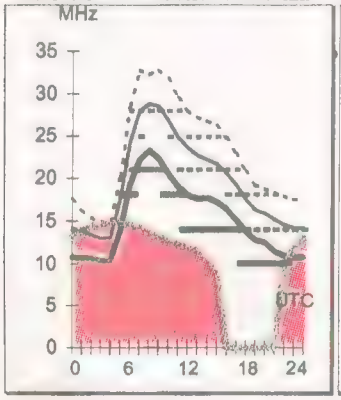

**Canberra-Dakar** 214
First F 0-5 Short 17361 km



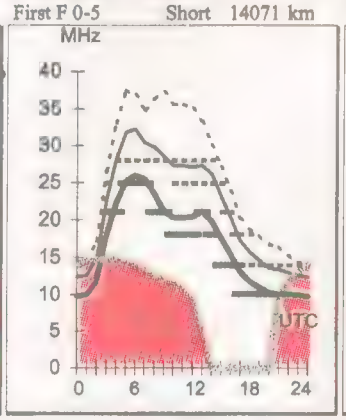

**Darwin-Christchurch** 139
First 2F4-8 2E0 Short 5262 km



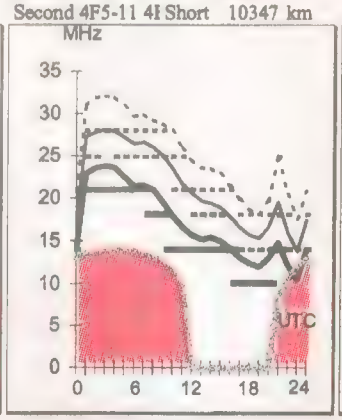

**Adelaide-London** 312
First F 0-5 Short 16269 km



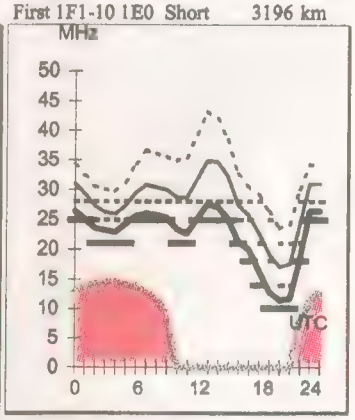

**Brisbane-Moscow** 321
First F 0-5 Short 14071 km



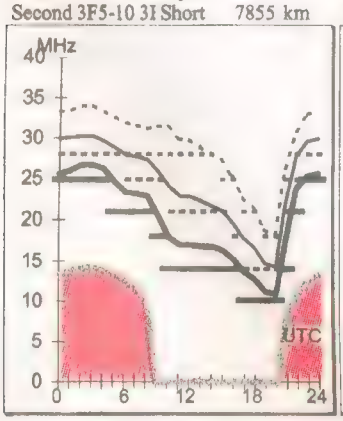

**Canberra-New Delhi** 303
Second 4F5-11 4I Short 10347 km



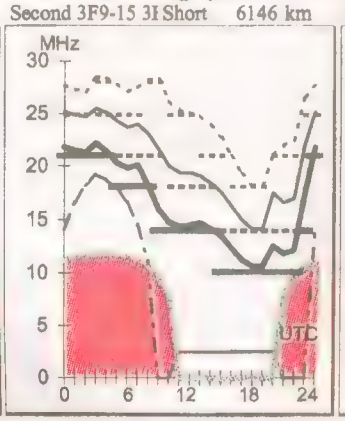

**Darwin-Manila** 340
First 1F1-10 1E0 Short 3196 km



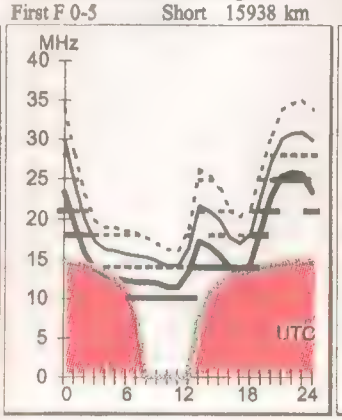

**Adelaide-Tokyo** 1
Second 3F5-10 3I Short 7855 km



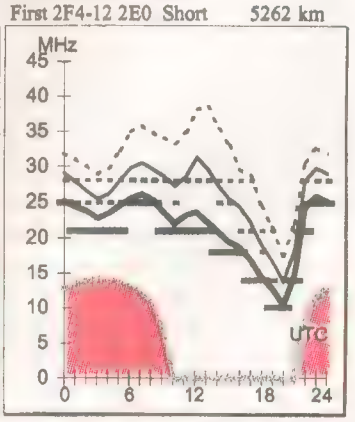

**Brisbane-Singapore** 293
Second 3F9-15 3I Short 6146 km



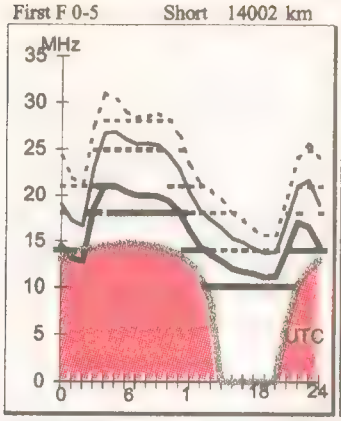

**Canberra-Washingtor** 70
First F 0-5 Short 15938 km



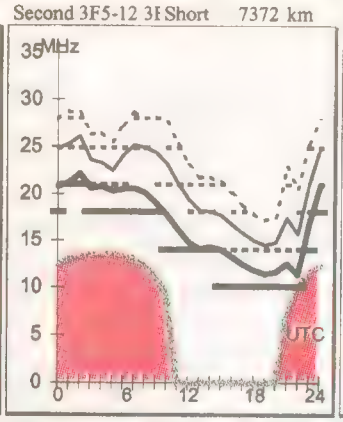

**Darwin-Osaka** 5
First 2F4-12 2E0 Short 5262 km



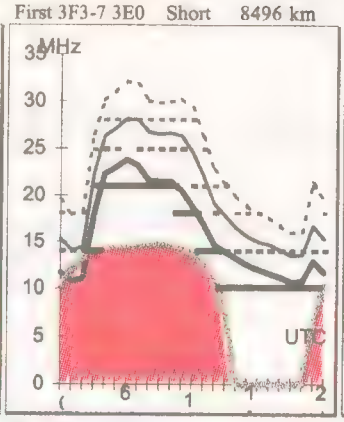
**Hobart-Amman** 283
First F 0-5 Short 14002 km



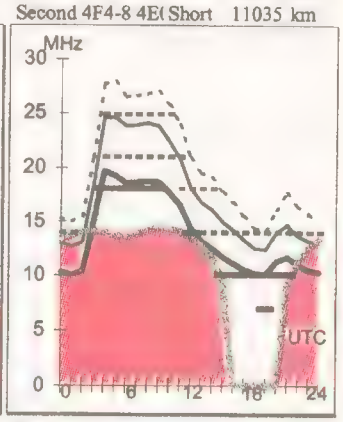

**Melbourne-Bangkok** 312
Second 3F5-12 3I Short 7372 km



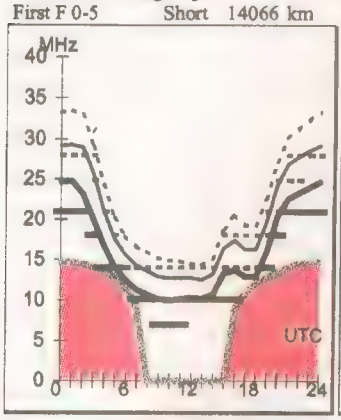

**Perth-Harare** 257
First 3F3-7 3E0 Short 8496 km



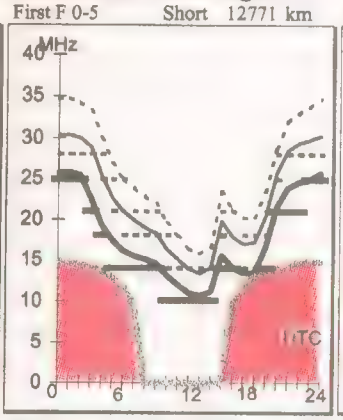

**Sydney-Johannesbur** 230
Second 4F4-8 4E( Short 11035 km



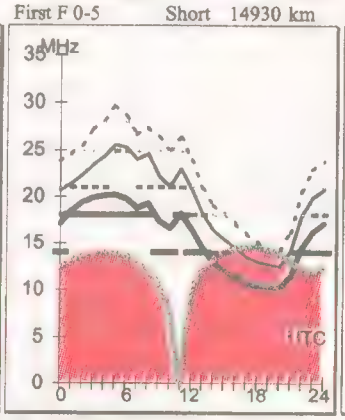

**Hobart-Calgary** 51
First F 0-5 Short 14066 km



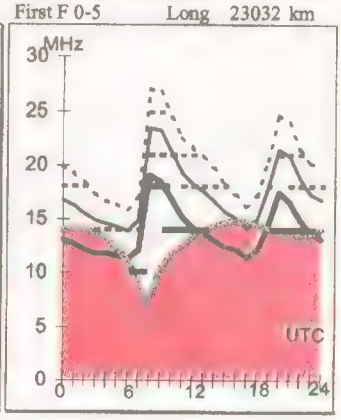

**Melbourne-LosAngel** 65
First F 0-5 Short 12771 km



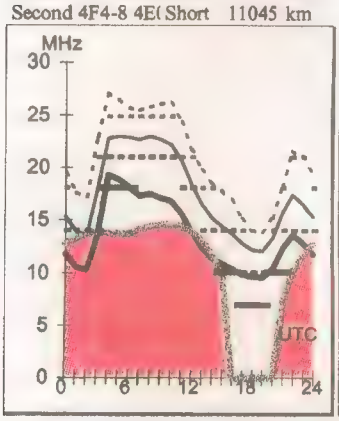

**Perth-Lima** 162
First F 0-5 Short 14930 km



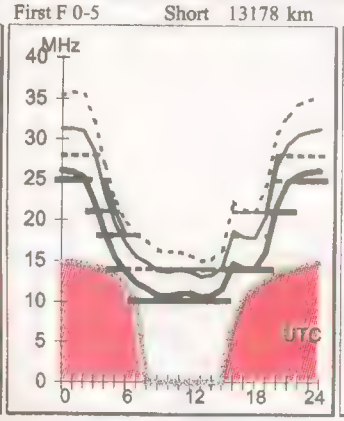

**Sydney-London** 139
First F 0-5 Long 23032 km



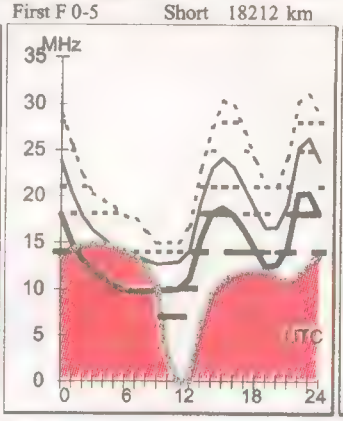

**Hobart-Lusaka** 239
Second 4F4-8 4E( Short 11045 km



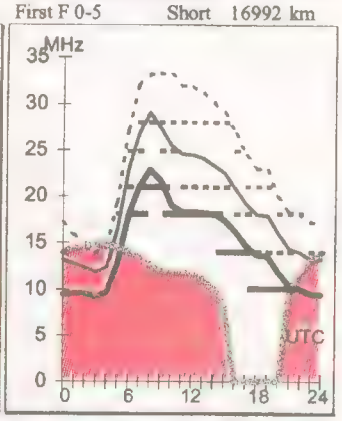

**Melbourne-Seattle** 50
First F 0-5 Short 13178 km



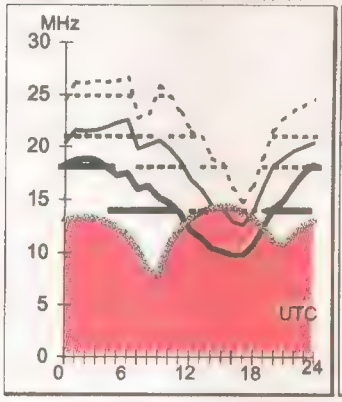

**Perth-Ottawa** 30
First F 0-5 Short 18212 km



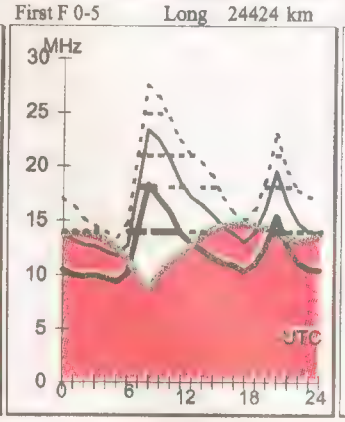

**Sydney-London** 319
First F 0-5 Short 16992 km



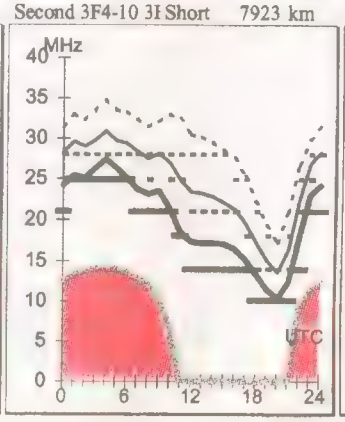

**Hobart-RiodeJaneiro** 169
First F 0-5 Short 12620 km



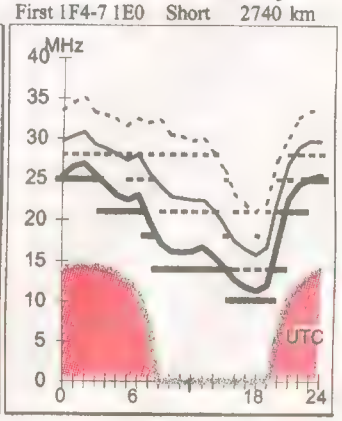

**Melbourne-Stockholn** 140
First F 0-5 Long 24424 km




**Perth-Tokyo** -20
Second 3F4-10 3I Short 7923 km




**Sydney-Port Moresby** 351
First 1F4-7 1E0 Short 2740 km



# IRLP

# Internet Radio Linking Project

David Byrne VK3DRB

**IRLP is a lot of fun! It works by using the Internet as a medium for the long haul. You get to talk to other amateurs often with good sound quality from many places in the world. Often they are just amateurs mobile, but remember, if you are calling a node at Upper Kumbukta West at 3 am in the morning their time, you might not get a reply!**

## What is required to work IRLP?

A rig with a DTMF tone generator. If you don't have the DMTF generator, go to this link: http://www.dsptutor.freeuk.com/dtmf/TG102.html and generate the tones through your sound card. A program called "Vox Studio 3" http://www.xentec.be is a more elaborate tool to generate DTMF. Just generate the DTMF up to your computer speakers as you press PTT. There are also acoustically coupled tone dialers around. In case you are in experimental mode, another alternative is to modify an el-cheapo push button phone to generate DTMF, powering the 5V circuit by an external power supply and tapping off the DTMF as buttons are pressed. If you have a CRO, it is not a bad exercise in learning about DTMF and the scanned keyboard matrix whilst you are at it. But DO NOT wire any of your equipment to a phone or modify a phone that is to be connected to the public telephone switching network! In other words, kiss goodbye to that phone ever being connected onto a phone line again. This might be a good idea if you have teenagers in the house!

To make a contact

Go to http://www.irlp.net/15-status/frame.html and see where you would like to make a contact.

(1) Listen on the local node frequency to make sure it is not in use. If in doubt, ask.

(2) Key your transmitter and dial the node you wish to contact, followed by a '0' to connect. After letting go of the PTT button, wait until you hear an acknowledgment message that you are connected or otherwise.

(3) Listen for a few seconds to ensure others are not talking on the node, then just say, for example "VK3DI in Melbourne Australia listening." If you make a contact, and it is your turn to talk, ALWAYS press PTT and hold it for 2 seconds prior to talking, else your voice will be cut off at the start.

(4) Be aware that nodes are often set up on normal repeaters, so they can time out.

(5) ALWAYS end the transmission by sending DTMF with the node number followed by a '1' character. To not do this leaves the channel open. Reflector users get rather annoyed when a channel is left open and there is a local QSO going

## VK and ZL IRLP NODES September 2002

| Node | Callsign | Location | Freq | Prefix/Tone |
|---|---|---|---|---|
| 600 | VK2RBM | Sydney | 147.050+ | |
| 601 | VK2RMP | Wollongong | 146.850- | |
| | VK2RIS | Nowra | 146.975- | |
| | VK2RBT | Bateman's Bay | 146.675- | |
| 602 | VK2RMB | Terry Hills | 146.875- | |
| 603 | VK2RMR | Mt Riverview | 439.575- | |
| 604 | VK2RTZ | Newcastle | 146.775- | |
| 605 | VK2RCZ | Sydney | 439.425- | |
| 606 | VK2RAG | Gosford | 438.075- | |
| 610 | VK6RNC | Perth | 146.625- | |
| 611 | VK1RBM | Canberra | 438.025- | |
| 620 | VK6RFM | Fremantle | 146.950- | |
| 621 | VK2TTA | Wahroonga | 439.250s | |
| 622 | VK2RIC | Lismore | 438.675- | |
| 624 | VK2SRS | Cooma | 147.375+ | |
| 625 | VK2ROT | Paddington | 438.575- | 123Hz |
| 626 | VK2RWG | Wagga Wagga | 147.125+ | |
| 630 | VK3RGL | Melbourne | TBA | |
| 631 | VK3RWA | Western Vic | 147.100+ | |
| 632 | VK3RRU | Merbein | 438.525- | |
| 633 | VK3RPU | Arthur's Seat | 439.725- | Nat |
| 634 | VK3DRB | Mt Waverley | 146.475s | |
| 635 | VK3RMH | Melbourne | 438.325- | |
| 636 | VK3ROU | Olinda | 438.225- | |
| 637 | VK3RSH | Swan Hill | 146.900- | |
| 638 | VK3RNE | Albury-Wodonga | 439.425- | |
| 639 | VK3JED | Experimental | 146.550s | |
| 640 | VK4RGC | Brisbane | 147.050s | |
| 641 | VK4FC | Bundaberg | 147.800- | |
| 642 | VK4SX | Bundaberg | 438.775- | |
| 643 | VK4CCV | Brisbane | 146.875- | |
| 648 | VK4RCA | Cairns | 146.950- | |
| 650 | VK5RAH | Adelaide Hills | 146.775- | |
| | VK5RSA | Adelaide City | 438.025- | |
| 651 | VK5RAC | Port Lincoln | 146.750- | |
| 660 | VK6AMS | Karratha | 146.700- | |
| 661 | VK6RAL | Albany | 146.725- | |
| 662 | VK6XAA | Collie | 146.900- | |
| 670 | VK7AX | Ulverstone | 146.750- | |
| 671 | VK7RHT | Lindisfarne | 146.700- | |
| 672 | VK7HTW | Murdunna | Special Events (Also backup for 671) | |
| 680 | VK8ZAB | Darwin | 146.850s | |
| 690 | ZL3TMB | Christchurch | 147.200+ | |
| 691 | ZL2LD | Wellington Rgn | 146.725- | |
| 692 | ZL2WKI | Palmerston Nth | 146.825- | |
| 695 | ZL1BQ | Auckland | 146.700- | |

Note. The National Prefix is issued quarterly. Contact your local IRLP node administrator for the current prefix.

# 'The close of an era'

I've just completed reading September AR. I always enjoy AR.

The article "The close of an Era" about Alan Vagg's life was very well done. However the paragraph under the picture carried an error in the information.

The last sentence should have read "In particular the ground hugging BRISTOL BEAUFIGHTERS" and not Beaufort Bombers.

The Beaufighter had two radial engines and was armed with 4 Cannon 20mm and 6 wing guns 0.303 Browning. They could carry bombs but mainly performed strafing at very low level i.e. 50 to 200ft, hence the "Whispering Death.

The two Australian Beufighter squadrons were Nos. 30 and 31. The first went to NG and the second to Darwin. Later the second also went to NG.

A Beaufort has been "renewed" and resides in the Moorabbin Air Museum in Victoria.

**Allan Carman VK3AQH**

# WICEN and rallies

I must say the story about WICEN and rallies was very good also Rod VK7TRF did a very good job. I must add that here in Tassie there are two other events that would not happen with out the help of amateurs.

Rally Tasmania and The Examiner Challenge 2002 both events are held in the North West of the state and require the help from our members in the South.

Rally Tasmania is on bitumen and looks like becoming a stage of the Australian Rally Championship (ARC) circuit soon, they want to have two events on bitumen surface and the rest on gravel roads.

The Examiner Challenge is what we call a poor mans Targa event makes a good training and set up event for Targa.

As you can see The Saxon Safari has now changed to Subaru Safari for the next five years. At the debrief for Subaru Safari held a few weeks ago the Clerk of the Course had this to say about WICEN, "*Without your time, effort and expertise, it would not be possible to run the event.*" We have now been asked to do the stage net as well as the command net.

**Cheers & 73s Gavin O'Shea VK7HGO**
**WICEN South Co-ordinator.**

**1. Views expressed in the letters and opinion columns are those of the authors and do not necessarily represent the policy of the WIA**

**2. Some of the letters may be shortened to allow more letters to be published**

Address letters to:
The Editor
Amateur Radio
34 Hawker Crescent
Elizabeth East SA 5117
or email:
edarmag@chariot.net.au

## IRLP continued

on in a far away land. Remember, when you are finished, ALWAYS disconnect and listen for the closing message.

*Example:* Let's say we want to connect to the WA2DCI node in New York. Press 4220 to connect. When finished, press 4221. Simple!

## Aspects of Sound Quality

One other point is that IRLP contacts are generally of exceptional quality, EXCEPT when the bloke you are talking to at the other end is using a hand held on a bus! The signal is scratchy into his repeater or node. The other problem that occasionally crops up is packet loss. Often this is caused by a bottleneck in the Internet where some packets (henceforth pieces of sound) are lost. Other problem is that voice can sometimes double over itself. Fortunately these problems are not that often. Sometimes just disconnecting and then reconnecting to a node fixes the problem.

Finally, simplex nodes are different to real repeaters. If you are listening to a simplex node, you might only hear one side of the conversation, especially if the input signal is QRP right next to the node. On repeaters, you hear both sides of the conversation.

IRLP is no replacement for HF DX'ing. A good analogy is, HF is like fishing... a fisherman enjoys fishing and he never knows what he is going to catch. IRLP is a bit like going to the fish shop to buy your fish.

There are more than 500 active nodes on the planet and growing rapidly. Eventually it will go to 4 digit node addresses (plus the 1 or 0 on the end)

**de David, VK3DRB**

# Why amateur radio is dying

First, my name is Ashley Geelan, I'm 26 years old and reside in Melbourne. My shack consists of a Pye MTR1 MK2, Uniden Washington, AOR 8200 Mk 2 and all these antenna are up my 50ft roof mounted tower.(I had Hills Industries make me a clothes-line like hoist for my discone etc) and have been a user of CB and scanners since I was 10 years old.

I have written the following as a response to an article wriiten in "Over To You" August 2002 (Vol 70 #8) titled *"Attention to our 'Old Timers'"*. As a young man who wished to be an amateur for years I can tell you, why I believe amateur radio is dying, rapidly. I don't know of one person interested in amateur radio, out of a group of 30 guys I know (we used to be the old Greensborough animal mode guys on Ch18 AM when I was in high school). Of all these ex-CBers I know and see every weekend (they are my social mates) not one even has slight interest in radios anymore. My younger brother and I are the only two locals who even still have CBs.

I am not aware of one other person under 28 (besides myself) who even knows what 27 MHz, UHF CB or Amateur radio are, let alone has an interest in them.

I have wanted to become an amateur for 10 years but the information is not readily available. And as Dick Smith, Tandy, etc no longer have an interest in radio, I believe that the decrease in radio services will be rather rapid. Not one of the companies (except TimePlus) listed for Victoria in the old *R& C* still exist. It is now hard enough to get parts for a brand new AOR 8200 scanner (DSE sold me the scanner, but refuse to get in the slot cards etc) and look at the quality CBs they now sell!!!

In the time I've been on CB (1989 to present) I have seen a rapid decline in product availability. You can't get a new CB SWR meter anywhere in Melbourne (I mean the old $30 Tandy/DSE 27MHz SWR meters, not the $300 Revex). So how can you guys seriously expect newcomers to your hobby, when what really are the feeder channels to Amateur radio are all but dead. Go to DSE and look at the quality (if you call it that) of the CBs, which most amateurs originally came from. The best CB in DSE is a PRO-520XL, they don't even sell the Uniden GrantXL anymore.

**I've wanted to get my novice (if that's your first licence) for six years, but have seen little if any information about where to go to get one. It wasn't until after 6 months of searching I saw this mag *Amateur Radio* in newsagents, took it home and realised that the organisation I needed to contact was the WIA in order to get my licence.**

With bad quality CBs to start, and no customer service in stores like DSE to do with Communications, it will be only a matter of time before DSE scrap selling Yaesu radios. (When purchasing my AOR 8200II scanner in May from the Preston Powerhouse they tried to tell me for half an hour it was a mobile phone!)

I've wanted to get my novice (if that's your first licence) for six years, but have seen little if any information about where to go to get one. It wasn't until after 6 months of searching I saw this mag *Amateur Radio* in newsagents, took it home and realised that the organisation I needed to contact was the WIA in order to get my licence. You need to broaden the audience, even one ad in metropolitan daily would generate some interest, as if you'd done that from time to time I might've known about this organisation's existence five years ago, instead of finding out about WIA yesterday, and even then only by luck that I needed smokes, stopped in the newsagent and *AR* was staring me in the face. If I didn't smoke I still wouldn't know where to start and I wouldn't have written this letter.

I have been looking since *Radiomag, (ex CB Action Amateur, Radio Action then Radio & Communcations)* for a journal about Australian radio and only found your WIA Amateur Magazine in the Heidelberg newsagency, and I've been looking for a radio mag every week since January 2002.

You won't have any new amateurs join the ranks unless we all (amateurs and CBers) get together and get the CB (both UHF and 27 MHz) even semi-popular again. Without a feeder channel that is similar to amateur radio, ie any other form of radio communcations, amateur radio will die as you can't have that many young members. It takes me hours of explaining to friends what AR and CB are and they don't seem very interested until you tell them it's like a mobile phone without the bill, just set-up costs and the cost of 13.8Vdc. If no one I know (which includes 40 CFA volunteers from Eltham CFA) knows what AR is how do you expect them to become interested.

Our Communications Officer for the Yarra Group (CFA) was not aware the amateurs could become the communications network in the event of another Ash Wednesday.

Yours sincerely,

**Ashley Stephen Geelan**
50 Wahroonga Crescent
Greensborough, VIC 3088
(03)9435 8966
ageelan@bigpond.com
"Alley Cat Greensborough" after 5pm
27.175MHz (18) AM
"ACBRO 365" when DX-ing is SSB

**Support the WIA**

WIRELESS INSTITUTE OF AUSTRALIA

**Australia's Amateur Radio Organisation**

# Math for AR

The September 02 version of "Writing for AR" repeats the restrictions on the use of math by authors of technical articles. That is an unwarranted imposition which could cause embarrassment for authors and publishers, restricting, as it does the ability to predict by technical analysis the in-use performance of a design.

The operating integrity of a design can only be predicted in most cases by the use of technical description which includes math more sophisticated than arithmetic; authors should include such predictions to assure constructors that the end product will perform as intended and be free of design fault. If such assurance cannot be provided by appropriate analysis the designer should be obliged to supply certified results of lab or bench proving tests. If none of those assurances are available, an editorial note should be attached with appropriate warnings of the possible consequences. The disclaimer on page one of each AR issue does not absolve the designer and the publisher of responsibility for malfunction caused by faulty design or construction instructions. Design ideas presented for development by readers should also include supporting technical analysis and appropriate math but in those cases it is understood that the reader is responsible for the end performance of a product based on the idea.

The words beginning with "Minimise the math...." used in the instruction reveal the originator's very limited understanding of the subject and there is no evidence presented to support the statement "Our readers prefer practical projects....". Does such evidence exist? I haven't seen it. The originator seems to be attempting to restrict content to his/her personal preferences.

**Lindsay Lawless VK3ANJ**
Box 760
Lakes Entrance 3909

# What are band plans for

I have no great argument with the article by Drew Diamond, AR September 2002 p37. However I was saddened by the tenor of his article, which in my view seems to partially exonerate band-plan offenders and suggests that the rest of us 'be reasonable' (my words) in our attitude to persistent and willful culprits.

I certainly agree that on-air slanging matches do us all more harm than good. But so does, doing nothing at all! At the very least it may (and probably will) be seen as tacit approval of such activities.

Persistent offenders who have rejected all reasonable requests to comply with our voluntary band-planning should at least be given the 'cold shoulder' treatment. Their CQ calls (on any frequency), and/or their requests to participate in other on-air activities such as scheduled on-air 'nets', could very properly be completely ignored. No need for any discussion, just ignore them. This action may (probably will) result in some on-air abuse. This should, of course, also be ignored. I believe this is a fair and mature method of expressing disquiet at the actions of an unreasonable few, and is in keeping with our widely accepted responsibility for our own 'self regulation'.

**Ray Turner VK2COX**

# 'Hooks' for new recruits

Back in April the Brenda Edmonds Education Notes called for "hooks' for new recruits. I was moved to do something so I contacted the "Northern Times" through my grandson Gavin Leslie, a journalist with the paper. The paper is a Quest Community newspaper distributed in Caboolture and Pine Rivers shires and has a circulation of some 73,000.

**Laurie Ernst VK4KLE**

*Editor's precis of the article:*

In brief there is a photograph of Laurie VK4KLE, Ron VK4BF, Ernie VK4GE and Tom VK4MWT.

They were identified as amateur radio operators who regularly helped with the Scout and Guide Jamboree on the Air. The article went on to say "Ningi amateur operator Laurie (VK4KLE) said amateur radio was more then using a walkie talkie or a CB radio. Also known as ham radio, it is the personal use of radio equipment for local, world wide and even space communications and experimentation he said".

The article then continued pointing out the technical nature of the hobby and the examination required to practice it.

There was also a panel with information on JOTA and how to contact Scouts Queensland and the WIA.

*Thanks Laurie for taking up the challenge so well. Colwyn VK5UE Editor AR*

# KOALA Crystals

Back in April 2002 AR I had an article "Tree Top Tester " published. Any amateur who would like to try out the system now has a chance. I have collected Bower Bird style12 of the 14.318 MHz crystals from old PC boards.

So if you send me QTHR a Stamped Self Addressed envelope including a QSL card, I will send you back a "Koala Crystal" by return mail. They all work in my little "Test Oscillator". So they should work in most Xtal Oscillator Circuits.

First in best dressed!

**Steve VK5AIM**

PS I did find a Koala at a local Church Sale, but I haven't got around to filling him/her up! Steve

# HAMADS

### FOR SALE NSW

• **Yaesu HF FT DX-560** good condition $350. **Yaesu FT690-R** 6 metre all mode g/cond $250. **Kenwood HF TS-520** & digi 5 $500g/cond. **Eddystone receiver 840C** model $220. **Rotator** super heavy duty 100 ft cable 240/12 V D-C. Motor control box model Emotator MXX 1103 brand new $1200. Contact V Hee VK2KVH Phone 02 4630 9158

• **Phillips P900** 2 metre tcvr modified for amateur bands, mounting bracket. One spare control head. Two spare mikes plus frequency chart, v.g. order $110 ono. LK Furner VK2ANI, Phone 02 6920 4180

• **Mast 108 foot**, nine inch triangular lattice, galvanised, with climbing rungs. In 18 six foot sections, pick up Sydney metro $690. **Kenwood TS-430S** transceiver, one owner, s/n 3050417, original carton, with mounting brackets MB-430, $490. Contact Tony VK2BBJ 02 4360 2234

• **Antenna tower 100 foot** Southern Cross dismantled in sections, ready to go. $550 VK2DRH QTHR Phone 02 9771 4031

### WANTED NSW

• **YC-7B digital display** for **FT-7B Yaesu**. Can anyone help? Particulars to L K Furner VK2ANI Phone 02 6920 4180

• **Service Manual** for a **MARCONI INSTRUMENTS Spectrum Analyser model TF 2370**. All costs met. Sam Faber VK2GLN Phone 02 4340 2765 vk2gln@wia.org.au

### FOR SALE VIC

• **Sanwa multimeter model N 501,** 2 microamp FSD 500k/Volt movement taut band suspension ex RAAF. Good condition $30 Bob VK3CAY QTHR jrkemp@melbpc.org.au 03 9398 2714

• **BC-221 Freq Meter** WW2 Precision equip with original charts & PSU $150. **Yaesu FT-301** Complete Line-up with PSU, ATU, Monitor Scope, Remote VFO. Excellent order a collectors item you can use. $2000. Offers considered. VK3DBD QTHR Phone 02 60 270 570 or email vk3dbd@rm.quik.com.au

• **Antenna HB-35C 5 Element Triband Yagi**, 14, 21 & 28 MHz Stainless hardware. Excellent condition $450 ONO. Julian VK3EJR Phone 0418 578 214 julianrose@connektron.com.au

• Deceased estate VK3BBP. **SWAN RF Power Meter Model WM-1500** 5/50/1500 watts HF. $90. **"Variac"** auto transformer **WARBURTON FRANKI** 240V ac in, 0-280V ac out. **Oscilloscope, DICK SMITH**, sweep range to 100 kHz, $50. **Coax relay**, PL-259 sockets, coil 25VDC, $35. Bill VK3BHW, Phone 03 5149 7340, vk3bhw@amsat.org.

### WANTED VIC

• **Restoring old valve radios** and need circuits. Have Australian official Radio Service Manuals Vol 2, 3, 4, 5, 12, 13 & 14 and would like others to fill gaps. Have a spare Vol 5 if anyone needs it. Bill VK3ZWO Phone 03 9598 6304

• **Yaesu FL-2100Z Linear** or similar, WARC bands essential. Sensible price paid. Can collect reasonable distance. Email vk3dbd@rm.quik.com.au or Phone 02 6027 0570

### FOR SALE QLD

• **Collins rig, Rx 75S-3, Tx 32S-3**, power supply, microphone, manuals and spare valves. $2250. John VK4VCF. Phone 07 3264 8061 or 0411 104 921

### FOR SALE SA

• **Yaesu FT-77 HF tcvr** Solid State 100w base/mobile 80m-10m WARC bands, Mobile Cradle. **Daiwa CN-520** swr/power X-needle meter and **Yaesu MH-1B8** mic. $365 s/n 3C021759. **Yaesu FP-700** 13V/20A matching Power Supply inc.built-in spkr. All cables and Manuals all vgc orig.vpacking. $195 s/n 3C020575. You collect, Ron VK5SD QTHR Phone 08 8337 6540. Mobile 0401371263 Email rsamos@chariot.com.au.

### WANTED SA

• **To restore Army Landrover Series III** fitted for radio we need: **for Radio Set AN/GRC-160**: amplifier power supply group OA-3633, mounting MT-1029, cable CX-4720. And **for Radio Set AN/GRC-106A**: amplifier AM-3349, mounting MT-3140, headset H-227/U, key telegraph KY-116/U and copy of manual TM 11-5820-520-35. Harro VK5HK QTHR Phone 08 8323 9622

### WANTED WA

• **Power transformer for Yaesu YO-901 multiscope** or complete unit with good transformer. VK6ABS QTHR Phone 08 9075 4136

### FOR SALE NT

• **Kenwood PS-50** 13.8V/20A power supply s/n 7020487 $190 **RD-300** DC-150 MHz dummy load $90. **Icom IC-720A** Ham Tx general coverage receiver s/n 14388 $390. **IC-25H** 2m FM Hipower s/n 1189 $180. **Tait T296** 13.8V/10A power supply $90. All units good working order. Jeff VK8GF QTHR Phone 08 8952 1016, email vk8gf@austarnet.com.au

### TRADE ADS

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### MISCELLANEOUS

• The WIA QSL Collection (now Federal) requires QSLs. All types welcome, especially rare DX pictorial cards, special issue. Please contact the Hon Curator, Ken Matchett VK3TL, 4 Sunrise Hill Road, Montrose Vic 3765, tel. (03) 9728 5350

## About hamads....

- Hamads may be submitted by ***email*** or on the ***form on the reverse of your current Amateur Radio address flysheet***. Please print carefully, especially where case or numerals are critical.
- Please submit separate forms for For Sale and Wanted items, and be sure to include your name, address and telephone number (including STD code) if you do not use the flysheet.
- Eight lines (forty words) per issue free to all WIA members, ninth and tenth lines for name and address. Commercial rates apply for non-members.
- Deceased estates Hamads will be published in full, even if the ad is not fully radio equipment.
- WIA policy recommends that the serial number of all equipment for sale should be included.
- QTHR means the address is correct in the current WIA Call Book.
- Ordinary Hamads from members who are deemed to be in general electronics retail and wholesale distributive trades should be certified as referring only to private articles not being re-sold for merchandising purposes.
- Commercial advertising (Trade Hamads) are pre-payable at $25.00 for four lines (twenty words), plus $2.25 per line (or part thereof), with a minimum charge of $25.00. Cheques are to be made out to: WIA Hamads.
- Copy should be typed or printed clearly, and be received by the deadlines shown on page 1 of each issue of Amateur Radio, at:

**Email:** *newsletters@ozemail.com.au* **Fax:** *03 9756 7031*

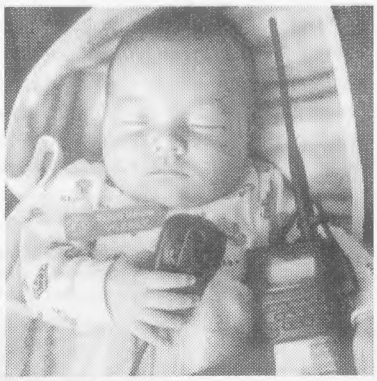
**Postal:** *Newsletters Unlimited, PO Box 431, Monbulk Vic 3793*

# The Proud Parents Parade

**September AR showed what "Harmonics" can get up to. Here is a further claim to fame.**

***Does any one else wish to make claims for generating more proficient "Harmonics"?***

Rohan Mcgrath on the cover of September AR



Sean Murnane

The endearing photo of young Rohan Mcgrath on the cover of the September issue of AR has inspired me to send you a photo my XYL Miki took a few months ago, of my then 6 week old son, Sean.

Although he was too young to even pretend to have a QSO, you have to admit he has the makings of a good grip on the microphone!

**73 Richard Murnane VK2SKY**


## THE WIA BOOKSHOP

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## *"Hey, Old Timer..."*

**If you have been licensed for more than 25 years you are invited to join the**

**Radio Amateurs Old Timers Club Australia**

or if you have been licensed for **less than 25 but more than ten years**, you are invited to become an **Associate Member** of the RAOTC.

In either case a $2.50 joining fee plus $8.00 for one year or $15.00 for two years gets you two interesting OTN Journals a year plus good fellowship.

Write to

RAOTC,
3/237 Bluff Road
Sandringham VIC 3191

or call Arthur VK3VQ on **03 9598 4262** or Allan VK3AMD on **03 9570 4610**, for an application form.

## PLAN AHEAD

**SEANET 2002**

**Perth**
**November 1st, 2nd & 3rd**

**One-Tech Sunday**
**Canberra**
**November 17**

## Radio Old Timers Club of SA

### ANNUAL LUNCHEON

**The annual Luncheon will be held on *Thursday 24th October 2002* (12 noon for 12.30 lunch)**
at the
**Marion Hotel**
**Main Road, Mitchell Park**

President: Jack Townsend VK5HT
Phone 08 8295 2209
Secretary: Ray Deane VK5RK
Phone 08 8271 5401
Asst. Secretary Ron Coat VK5RV
Phone 08 8296 6681

**Public Transport: Bus 243, Stop 24**
**Ray Deane, Honorary Secretary**

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All advertisers are advised that advertisements containing only a PO Box number as the address cannot be accepted without the addition of the business address of the box-holder or seller of the goods.

# Division Directory

*The Amateur Radio Service exists for the purpose of self training, intercommunication and technical investigation. It is carried out by amateurs who are duly authorised people interested in radio technique solely with a personal aim and without pecuniary interest.*

The Wireless Institute of Australia represents the interests of all radio amateurs throughout Australia. National representation is handled by the executive office under council direction. There is one councillor for each of the seven Divisions. This directory lists all the Divisional offices, broadcast schedules and subscription rates. All enquiries should be directed to your local Division.

**VK1 Division** Australian Capital Territory,
GPO Box 600, Canberra ACT 2601

| | | |
|---|---|---|
| President | Gilbert Hughes | VK1GH |
| Secretary | Peter Kloppenburg | VK1CPK |
| Treasurer | Linden S Orr | VK1LSO |

**VK2 Division** New South Wales
109 Wigram St, Parramatta NSW
(PO Box 432, Harris Park, 2150)
(Office hours Mon-Fri 1100-1400)
Phone 02 9689 2417
Web: *http://www.ozemail.com.au/~vk2wi*
Freecall 1800 817 644
e-mail: *vk2wi@ozemail.com.au*
Fax 02 9633 1525

| | | |
|---|---|---|
| President | Terry Davies | VK2KDK |
| Secretary | Pat Leeper | VK2JPA |
| Treasurer | Chris Minahan | VK2EJ |

**VK3 Division** Victoria
40G Victory Boulevard Ashburton VIC 3147
(Office hours Tue 10.00 -2.30)
Phone 03 9885 9261
Web: *http://www.wiavic.org.au*
Fax 03 9885 9298
e-mail: *wiavic@wiavic.org.au*

| | | |
|---|---|---|
| President | Jim Linton | VK3PC |
| Secretary | John Brown | VK3JJB |
| Treasurer | Barry Wilton | VK3XV |

**VK4 Division** Queensland
PO Box 199, Wavell Heights, Qld. 4012
Phone 07 3221 9377
e-mail: *office@wiaq.powerup.com.au*
Fax 07 3266 4929
Web: *http://www.wia.org.au/vk4*

| | | |
|---|---|---|
| President | Ewan McLeod | VK4ERM |
| Secretary | Bob Cumming | VK4YBN |
| Treasurer | Bill McDermott | VK4AZM |

**VK5 Division** South Australia and Northern Territory
(GPO Box 1234 Adelaide SA 5001)
Phone 08 8294 2992
web:*http://www.sant.wia.org.au*
email: *peter.reichelt@bigpond.com*

| | | |
|---|---|---|
| President | Trevor Quick | VK5ATQ |
| Secretary | Peter Reichelt | VK5APR |
| Treasurer | Trevor Quick | VK5ATQ |

**VK6 Division** Western Australia
PO Box 10 West Perth WA 6872
Phone 08 9351 8873
Web: *http://www.vk6wia.org*
e-mail: *vk6wia@iinet.net.au*

| | | |
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| President | Neil Penfold | VK6NE |
| Secretary | Christine Bastin | VK6ZLZ |
| Treasurer | Bruce Hedland-Thomas | VK6OO |

**VK7 Division** Tasmania
PO Box 371 Hobart TAS 7001
Phone 03 6234 3553 (BH)
Web: *http://www.tased.edu.au/tasonline/vk7wia*
also through *http://www.wia.org.au/vk7*
email: *batesjw@netspace.net.au*

| | | |
|---|---|---|
| President | Mike Jenner | VK7FB |
| Secretary | John Bates | VK7RT |
| Treasurer | John Bates | VK7RT |

## Broadcast schedules

**All frequencies MHz. All times are local.**

VK1WI: 3.590 LSB, 146.950 FM each Thursday evening from 8.00pm local time. The broadcast text is available on packet, on Internet *aus.radio.amateur.misc* news group, and on the VK1 Home Page http://www.vk1.wia.ampr.org

**Annual Membership Fees.** Full $80.00 Pensioner or student $71.00. Without *Amateur Radio* $48.00

From VK2WI 1.845, 3.595, 7.146*, 10.125, 14.160, 24.950, 28.320, 29.120, 52.120, 52.525, 144.150, 147.000, 438.525, 1281.750 (* morning only) with relays to some of 18.120, 21.170, 584.750 ATV sound. Many country regions relay on 2 m or 70 cm repeaters. Sunday at 1000 and 1930. Highlights included in VK2AWX Newcastle news, Monday 1930 on 3.593 plus 10 m, 2 m, 70 cm, 23 cm. The broadcast text is available on the Internet newsgroup *aus.radio.amateur.misc*, and on packet radio.

**Annual Membership Fees.** Full $80.00 Pensioner or student $63.00. Without *Amateur Radio* $50.00

VK3BWI broadcasts on the 1st Sunday of the month at 20.00hrs Primary frequencies, 3.615 DSB, 7.085 LSB, and FM(R)s VK3RML 146.700, VK3RMM 147.250, VK3RWG 147.225, and 70 cm FM(R)s VK3ROU 438.225, and VK3RMU 438.075. Major news under call VK3ZWI on Victorian packet BBS and WIA VIC Web Site.

**Annual Membership Fees.** Full $83.00 Pensioner or student $67.00. Without *Amateur Radio* $51.00

VK4WIA broadcasts on 1.825 MHz SSB, 3.605 MHz SSB, 7.118 MHz SSB, 10.135 MHz SSB, 14.342 MHz SSB, 21.175 MHz SSB, 28.400 MHz SSB, 29.660 MHz FM (rptr), 147.000 MHz, and 438.525 MHz (in the Brisbane region, and on regional VHF/UHF repeaters) at 0900 hrs K every Sunday morning. QNEWS is repeated Monday evenings, at 19.30 hrs K, on 3.605 MHz SSB and 147.000 MHz FM. On Sunday evenings, at 18.45 hrs K on 3.605SSB and 147.000 FM, a repeat of the previous week's edition of QNEWS is broadcast. Broadcast news in text form on packet is available under WIAQ@VKNET. QNEWS Text and real audio files available from the web site

**Annual Membership Fees.** Full $95.00 Pensioner or student $81.00. Without *Amateur Radio* $69.00

VK5WI: 1843 kHz AM, 3.550 MHz LSB, 7.095 AM, 14.175 USB, 28.470 USB, 53.100 FM, 147.000 FM Adelaide, 146.800 FM Mildura, 146.900 FM South East, 146.925 FM Central North, 438.475 FM Adelaide North, ATV Ch 35 579.250 Adelaide. (NT) 3.555 LSB, 7.065 LSB, 10.125 USB, 146.700 FM, 0900 hrs Sunday. The repeat of the broadcast occurs Monday Nights at 1930hrs on 3585kHz and 146.675 MHz FM. The broadcast is available in 'Realaudio' format from the website at www.sant.wia.org.au Broadcast Page area.

**Annual Membership Fees.** Full $88.00 Pensioner or student $73.00. Without *Amateur Radio* $58.00

VK6WIA: 146.700 FM(R) Perth at 0930hrs Sunday relayed on 1.865, 3.564, 7.075, 10.125, 14.116, 14.175, 21.185, 29.120 FM, 50.150 and 438.525 MHz, Country relays 3.582, 147.200 (R) Cataby, 147.350 (R) Busselton, 146.900 (R) Mt William (Bunbury).147.000 (R) Katanning and 147.250 (R) Mt Saddleback. Broadcast repeated on 146.700 at 1900 hrs Sunday relayed on 1.865, 3.564 and 438.525 MHz : country relays on 146.900,147.000, 147.200, 147.250 and 147.350 MHz..Also in "Real Audio" format from the VK6 WIA website

**Annual Membership Fees.** Full $71.00 Pensioner or student $65.00. Without *Amateur Radio* $39.00

VK7WI: 146.700 MHz FM (VK7RHT) at 0930 hrs Sunday relayed on 147.000 (VK7RAA), 146.725 (VK7RNE), 146.625 (VK7RMD), 3.570, 7.090, 14.130, 52.100, 144.150 (Hobart), repeated Tues 3.590 at 1930 hrs.

**Annual Membership Fees.** Full $90.00 Pensioner or student $77.00. Without *Amateur Radio* $57.00

**VK8** Northern Territory is part of the VK5 Division and relays broadcasts from VK5 as shown, received on 14 or 28 MHz. The broadcast is downloaded via the Internet.

# The *wonderful world* of discovery: JOTA and JOTI

Sea Scouts enjoy the experience of being 'on air'

Gavin VK4ZZ, Scout Leader and Amateur in both roles

## *Jamboree on the Air* and *Jamboree on the Internet* JOTA and JOTI 2002. October 19-20

This is the 45th year Scouts and Guides with the help of Radio Amateurs have come together in a worldwide event. Lots of people to meet and talk to. Lots of new things to be learnt by Scouts, Guides and Amateurs.

Last year one group of Venturers was fortunate to be able to talk to the International Space Station.

Hopefully some 20,00 Scouts and Guides in Australia will join a million others in 216 countries to make this the best Jamboree ever.

Scouts Australia is the largest Youth Organisation in Australia with over 80,000 male and female members. So if you get a last minute request for help from a local group please try and get them on air or Internet. You can contact your local group or go to Scouts Australia on 1800072688 or www.scouts.com.au

# Shepparton Hamfest

## Sunday, 15 September 2002

Shepparton photos by Ron Fisher VK3OM

*"Wall to wall people!"*

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